Ans — Dec 2d.
Ans — 14

Bluffton
St Lukes Parish
So. Ca
24 Nov 1870 —

To —
Dr Geo. Engelmann, St Louis Mo.

Dear Sir,

Yr letter of 14 Nov reached me in due time & I shall endeavour to procure the Yuccas &c wh you desire. Please to remember however that I am no Botanist as I only "hunt ups" any plant wh may be of use medicinally, or a chance flower on the roadside either for recreation or amusement! Furthermore shd I fail at any time to obtain what you need do not attribute it to indifference but to the Changes of the Time! "Before the War" (an usual phrase for ~~for~~ referring to a Halcyon time of perfect Peace & Prosperity!) I might readily have obtained for you any specimen on our Sea-board, as my ~~fair~~ visits to the Sick carried me daily from isle to isle. But now all of that is changed, locomotion either by land or water is difficult &c — so that I seldom reach those especial localities where are to be found most abundantly the plants about wh you desire information. But enough of this!

I know only three species of Yucca about here, & no "varieties" of them, 1st the "Bear grass" — "Y. Filamentosa" — 2d "Y Gloriosa", — 3d "Y. Draconis (?) or "Aloifolia". But I do not think I can say anything more than what may be learned from Elliott or Chapman which latter I now

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have before me. 1st "Y. filamentosa". Without a stem, leaves springing from the earth, ~~sometimes~~ generally rigid – frequently spreading out & re-curved & lying on the ground – having a spine & long white threads detached from the margins, twisted up & curling. Scape about 6 feet high, & "terminating in a long panicle" of bell shaped flowers. Grows about here in sandy soils on the edges of cotton fields & gen-erally in little patches: Chapman says "stem rarely more than a foot above the ground" – I have never seen any stem – the scape shoots out from the surface of the earth, surrounded by the rigid, or smooth & flexible leaves. Does not bloom every year, nor do I know at what period it again puts out its scape & flowers. I visited a spot yesterday where I observed some very beautiful plants in 1868, – I found the old dead flower stalks of that year wh. had long been trampled – no capsules of course & no signs of having bloomed this year. 2d "Y. gloriosa". Stem about 4 feet high, stout, – branched, sometimes 3-branched, & covered to the earth with the old decaying leaves. Leaves lanceolate, glaucous, entire, ~~very~~ acute, with a strong spine, – flexible, the lower ones bending down & covering the stem to the earth & entirely concealing it. Colour of rather paler green than either Y. F. or Y. D. Can tell you nothing about the flower or fruit; – must have seen them often, but not since my attention has been directed to the yuccas this year. There are only 4 or 5 of these plants in this neighborhood & none of them have bloomed this year, The general appearance of the Y. G. is stout & solid, & very leafy. 3d "Y. Draconis?" or "Aloifolia". Stem about 10 feet & over, – not generally erect, but twisted or bent & most fre-quently branched & covered to the ground with the old leaves, but not so thickly or com-pletely enveloped by them as in the former.

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leaves more rigid than y. ones & of a beautiful green — having a varnished look; spine very stiff — margins very rough — serrulate? "young leaves erect & expanding" — the old bending down. Flowers in a compact panicle 1½ to 2 ft. high — seldom 2 ft. I think. Found in same situations as with the former, & frequently found growing in clusters or patches just on the margin of salt water. If I mistake not the leaves are covered by an extremely thin pellicle (?) wh. partially disquamates when you break or bend them. I've seen but very few blooms this year & to day obtained only a poor specimen of the fruit — but the best I can get. Could I succeed in reaching a little sooner in May perhaps I might get excellent specimens but I may not readily get them, "Cuffee" being unwilling !!

If I do not send the package containing the leaves &c &c by the mail wh takes this letter you may look for it about a week after.

I have a few capsules of the "Pinckneya Pubens" wh you also desire, & wh I plucked some days since from the only spot where they grow in this locality. These also I will send, — it is most likely that I can get others this season as I think they have by this time burst & discharged their seed. During the past summer I sent 2 or 3 specimens of the flowers &c to Mr Ravenel wh I dare say you could get from him for an Herbarium if desired.

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As I remarked above, I know of no other yuccas here & no "varieties". It is true in shady places & in different soils you may find a slight variation in either the colour, — the length — the width & the rigidity of the leaf, but this amounts to nothing. Possibly the experienced Eye & accurate knowledge might detect distinctions. But we scape an unpractised observer like myself. The slight differences between my own observation & the notes have been alluded to, — but as you see do not amount to much. Elliott's Sea Country Botanist seems to be unusually accurate as to all plants growing near his old Home (Beaufort) not far from here, & I, at any rate old hand, have to correct him.

His talent for the Ly. of order & observation &c, &c, crowded out in far other forms in the Engineering skill, readings of research, & heroic courage of his namesake & kinsman Stephen Elliott of Fort Sumter memory! Please pardon this rambling allusion my Dear Sir to a venerable Past, & believe me

Yours very truly

J. Buchanan

28th Nov. I shall send the package with this letter, containing the leaves of the yuccas & a miserable specimen of fruit of No 3. "y. Draconis" — cd find no dry capsule of "y. filamentosa"; but 2 plants bloomed near here during last summer, one was plucked by a friend to adorn his mantel piece — the other I visited recently & saw no signs of it. If I get to the out-isles — shall endeavour to send for better specimens — least I can do at present. Enclose also in package capsules of Pinckneya.

I have seen the "y. Recurvifolia", tho' said to grow. Please examine the leaf of y. filamentosa which was about 2 feet long.

Recd Jan 4th 1871
Ans Jan 20.

Bellevue
St Lucia's Parish
Sol Co
28 Dec 70

To
Dr Geo. Engelmann
St Louis

Please accept my thanks for yr very obliging & instructive letter as to the form of Yucca &c. I had hoped to have visited the spot where the only 2 or 3 Y. filiosas in this neighbourhood grow, for the purpose of endeavouring to answer yr queries satisfactorily, but this I have not as yet been able to do. I shall however read yr letter fully & shall endeavour soon to give you the information you desire. Next summer however shall I be fortunate enough to get over to the African Paradise of Hilton Head I shall hope to keep my eyes open for you. I may say tho' in advance that I do not remember to have seen the leaves of Y. f. — "slightly filamentous", nor can I vouch for anything of the flowers, for I am not sure that I even observed them — the few plants about me here not having bloomed this summer! Nor can I say anything as to the fruit, — yet without doubt I must have seen it often. My attention has only this summer been attracted

to the various species. You ask me if the Y. filamentosa has always shorter & wider leaves than the dry sand or land forms? Certainly I think shorter, & perhaps also wider, — but I imagine the shading & protection of the tree has more to do with elongation or widening than perhaps all other in-fluences. When growing under trees the leaves are generally very long & flexile & more narrow, as you will see by comparing the "salt water" & "graveyard" specimens wh I now send you. I have just rec^d from a friend a few capsules & a few many seed of Y. filamentosa? & on this acct I write & send on at once. My friend lives only 10 miles from here, yet in the rice-fields & fresh water region of New River: I had described the plant to him asking if anything of the sort grew about him? — Yes! near his house, for a negro was quite badly "scared" last summer by the large white blooms dimly seen by moonlight, — he (the darkey) thinking he had seen a "spenitt" or a "ghose"!! I am ~~[illegible]~~ curious to visit the place & see for myself this Y. f — for I was not aware that in this region they were ever found in the wet & clay soil of N. River, nor have I ever seen leaves of Y. f. so long, or so very flat, or so flexile, perhaps I shd say flaccid.

Missouri Botanical Garden
George Engelmann Papers

Scarborough, N.C.

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But you will determine for yourself when you examine both leaves, capsules & seeds. If I ever get them I shall carefully examine & report. I send also the fruit of Y. Gracilis from my River but not growing in salt water but near it, & in good soil, & a leaf also from same tree marked. These specimens were very green & luxuriant & not tall & spindling, — hardly over 5 feet & threatened; — also more seeds of Pinckneya Pubens, — and I imagine to sow the whole after the Gardiners "Plantes" if the mighties have time now for that species of industry!! "As soon as they get out of the hands of the Germans" — you say! — alas! I very much fear that day may be a long way off, as it looks somewhat at present as if these "solid bitterness Teutons" (as Emerson calls them) have come "to stay"! You will hardly see if I say that my sympathies are with the "frog eaters", for I claim to have half come from this country "after the revocation of the Edict of Nantes" in the days of long ago!, — and we all of us here, have we our way, would sink every Prussian in the Rhine! But you will hardly see the point of your remark & we will both say we hope that the end of this terrible contest is near! I find this Pinckneya growing in a swampy "gall" with a

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sandy ridge on either side, of Scrub oaks & Pines. I have often planted the seed in boxes with woodland earth kept moist, & they always came up abundantly. Last Yr. I had one from seed about 3 ft. high I think. It perished as soon as transferred from the moist box to the hacked & airy soil of the garden.

I send also a few seed of Nelumbo-lutea & Sabinetus & Agave Virginica &c as I happened to have collected them, not knowing whether they may not be found farther North. I should be delighted my Dear Sr. to get so valuable a work as the one you refer to on the Cacti. & thank you very heartily for the same. I should value it much. I know but 3 Cacti about here, one on the sand Hills along the beach called "Pin-Pillows", — another with larger & flatter leaves about me, & another wh. I've only seen around the old Episcopal Ch. yard in Beaufort, wh. has much larger & thicker leaves still, & very long yellow spines. The rather insipid fruit (very luscious looking tho') "we boys" in "the days that are no more" used to amuse ourselves by eating on the old tomb stones & many a feast did we make on "Prickly Pears" as we called them; I have never seen them anywhere but in that spot, a Dr. Gilchrist formerly brought them from his old Home there, & planted them at his place near this village. He told me that it was thought the Spaniards had brought them from St. Augustine Fla. in their many incursions &c while fighting with the early colonists of Beaufort. The fruit is of a beautiful purple & large. Very truly & respectfully yrs

J. A. Mellichamp

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Rec'd Jan 6 1871
Ans Jan 20

Bluffton Ind
31 Dec 70

To
Dr Geo. Engelmann
Dear Sir –

A few days since I sent you a package containing the capsules & seeds of Y. Filamentosa (?) & also good fruit of Y. Baccata &c &c, at the same time writing you that I wd attempt to answer yr queries as soon as I cd visit the spot where the only two or three "Glorioses" in this neighborhood grow.

I had an opportunity of doing so to day & as I think I may have "stuck" something else while there I've thought it best to write at once & also send certain other specimens wh are new to me & wh may be interesting to you.

Yucca Gloriosa. The older leaves are a little rough on the back, but the younger quite smooth, – the latter are smooth on the edges, and not rough or serrulate,

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I send a young leaf so that you may satisfy yourself. As to the fruit & flowers (as I remarked before) I know not that I have ever seen them, so that I cannot tell you whether it ever flowers before it makes a trunk, or whether the panicles be sessile between the leaves or not. "Are not with you the leaves slightly filamentose"? After a careful examination of all the plants I did find 2 or 3 leaves very slightly filamentose, — the threads being brown & not white as in the "Bear grass". I send also one of these leaves.

Y. Draconis. This plant differs somewhat in various situations in having leaves either of a deeper green, or more glossy, longer or shorter, — wider or narrower, but they are invariably stiff & rigid, unless deeply shaded & serrulate, and they all of them will "saw blood" if you meddle them! Draconian indeed! Some indeed appear to be shorter, & more closely imbricate, but I am still of the opinion that these various differences are due either to soil

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or to their being more or less shaded & protected. To day I looked at a good many growing a few feet from Salt water (may River) & I think I may say certainly that the leaves are generally shorter, but not wider than those growing else-where, indeed those plants whose roots are laved by almost every tide have short & narrow leaves & are for the most part inferior, but those growing in good soil have leaves very green & beautiful, — more rigid, & if I am not mistaken broader than any others!

And now for the other plant wh. I found to day but a short distance from those wh. I sent you as Y. Gloriosa, and growing immediately on the little bluff overhanging the river. There were two of these plants growing alongside of each other, & wh. you will find marked ⊙ No. 1 & ⊙ No. 2. Tell me what they are! At first glance I supposed them to be younger plants of the Y. Gloriosa but upon close examination & finding a ~~flowe~~ flower stalk from three to four ft. high having precisely the form & appearance of that of my Y. Filamentosa

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I was somewhat staggered, for I cld not suppose that these stalks had borne heavy pulpy fruit, but only dry capsules like the Y. F! The capsules be they dry or pulpy had disappeared, so that I cld not determine from them the character of the plant! Is it certain that the Y. gloriosa bears pulpy fruit — the books I believe says so, but you have never seen the fruit you tell me! Is this then Y. gloriosa or the Y. recurvifolia of Elliott? The one plant had a trunk about a foot high, — the other a trunk 3 feet high, — the former with the flower stalks growing immediately from the centre, in height about 4 feet; — the latter with the old flower stalk pushed out from the side about a foot from the top, — last, or this year's growth of leaves having thrust it out as it were & inclined it to one side! The leaves are longer, narrower & longer than the Y. gloriosa & the older or one of the plants serrulate, as you will see. Not plaited I think, nor spotted as in all of the leaves of Y. g, and of a deeper green. Not filamentose. You tell me that there is another

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Ser Jan 6th 1871

(5)

species of Bear grass growing in Aiken S.C. which in Europe you have seen with a trunk 4 to 6 inches high:— this I conclude is of course not a "Bear grass", but either Y. g— or Recurvifolia, still, the flower stalk reminds me so much of the Y.F. that I know not what to think. I am aware that the panicle of Y. g is said by the books to be large — 3 feet or thereabouts but I do not feel sure that the old dried flower stalk that I send, with apparently only one "stipule" at the base corresponds with the description otherwise!

I fear my Dr Sir that I weary you with my unscientific & inaccurate description & that you will smile at my "much ado about nothing", but I've thought it possible that I might be obliging you by even my lame attempt to bring before you the plants concerning wh you desire information! Another year of hunting up these plants & having better luck in finding fruit & flowers I may get for you what you need! ——

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Please also examine the leaves marked X wh. I formerly sent you as the "young of Y. gloriosa?" & wh. I found growing from several clusters of short trunks in a field of broom grass. These are very soft & flexible but resemble somewhat the 2 plants of wh. I found to day.

Very respectfully yrs

J. H. Melenchamp

P.S. — If these plants be indeed Y. filamentosa — they differ from my other specimens sent in 1st having a trunk from 1 to 3 feet. 2d in having leaves, rough, more rigid, serrulate & besides having no threads detached from the margin! But you will determine for yourself.

C. T. M.

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rec'd Jan 20
Ans Jan 20

"Stiles Point"
Jas Isld S.C.
15 Jan '71

To
Dr Geo. Engelmann

Dear Sir

Before leaving Home I sent you two packages of Yucca Specimens with accompanying notes wh I conclude you recd.

Being here for a few days on a visit to my family I have tried to keep my eyes open while rambling about in my old haunts, in hopes of getting something wh might be of int to you.

In the loose sand a few feet from the margin of the Ashley and immediately opposite Chston I found —

No 1. Y. filamentosa ? This appears to differ from the Bluffton specimen sent you, in having leaves of a

I am indined to think that my last specimens sent wh grew in an unknown soil — I expected to meet South Ten nothing else than Y. filamentosa

I sent (the leaves of wh I sent) were infested by the sick soil & cultivation.

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paler green, — rougher & coarser, & abruptly pointed. Also in having a trunk. I found one (specimens of the leaves sent) six inches in height by careful measurement, — another about 4 inches, & the rest still shorter, & rather seeming to be trunkless. Could see no capsules, tho' a few old flower stalks were found from 4 to 6 ft. These plants seem more densely leaved than the Bx. species (hopefully from the greater width of the leaves) — some of them having a regularly stellated appearance. Higher up in the isls. they were very abundant on the edges of the cotton fields, — all presenting the above appearance & none of them resembling those sent you as y. 7!

Possibly this is the species you refer to as growing in Aiken!

A little farther on, on a tongue of sandy beach, covered with a few saline grasses, "pin-pillows" (Cacti) & small patches of "sea-side oats" (Uniola Latifol) I espied the

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very thing I had been so long looking for — viz —

No. 2 Y. Gloriosa, with a flower stalk of this year, a rather last yr., & still not entirely dry. It was not long before I crossed the little creek wh. still retains the old Indian name of Kuskauskah, — but alas no fruit!

I took 16 inches, & another plant along-side, of about half the size, apparently growing from the same root. Leaves rigid & erect as formerly described (I send 2), & from the centre of them a large flower-stalk running up over 6 feet! — for after cutting it out I placed it alongside of my long-limbed Cinerman who is full 6 ft. & it was about an inch or two taller! He said that when in flower during the summer its appearance was very fine, but that he had seen no "bananas" as the negroes call the pulty fruit of Y. Draconis, — yet he thinks they were bearing abundantly a little farther off from the Beach. Mr. H's attention never having been directed especially to these plants he cd. not tell me anything about the fruit, tho' he was familiar enough with that of the Draconis — he has promised however to look out for me this yr.

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and preserve (if he can find them) both fruit & flowers of this as well as the former, Y. F(?). The specimens of —

No. 3 — Y. Dracænis growing not far off were fine, & some of them on a rich dam on the edge of the cotton field were stouter, fuller & more luxuriant than any I had seen about Bn. — generally from 8 to 10 ft. & for the most part regularly bifurcating at the height of 6 or 7 ft. The leaves very long & wide (as I formerly remarked was the case when the soil was strong) & were invariably covered with a kind of white efflorescence (?) wh. at first I took to be the "guano" deposit of sea-birds, or perhaps Cranes, — but I soon discovd. that this was impossible, for the said birds wd. certainly have been impaled on the sharp Dracænian lances! The leaves I again saw looked as if they had been whitewashed! Upon scraping & tasting this deposit it seemed to be silica. Is it not? I have, if I mistake not, read of certain plants (Bamboo &c I believe) furnishing a pure silica — or am I entirely mis-taken? I had never observed it before — I dare say because I had never looked after these things. Specimens of this also sent, wh. most likely is nothing new to you, but it wd. be best to allude to it.

P.S. Package sent with this note.

I shall return Home in a week or thereabouts.

Very truly & respy.

J. H. Merrihew

Edm.

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P.S. I enclose a few of N. Riv. Y. F seeds & mutd capsules in this letter also. Bluffton MO

26 Jan 71

Dr Sir: Engelmann –

Rec. Feb. 13

My Dr Sir:

Your letters afford me the sincerest pleasure, & I have to thank you very cordially for yr last of 20 Jan, wh I recd a day or two since. These things be agreed are not at all foreign to my tastes, & I am glad to serve you! I am however much annoyed that my 3 packages did not reach you, — the first 2 will hardly come to light, but I still have some hope of the last wh I placed myself in the hands of a Clerk at the Chestr PO. The others also were weighed, stamped & mailed under my own eye here. I cannot acct for it, & yet what wonder is there when you remember that the PO of the South is in the hands of negroes, "Scalawags", and yankee "Carpet baggers"! We shd be only too happy if even our letters go straight! But pardon my Dr Sir for alluding to such things!

* The capsules of Y. filamentosa (?) with seeds sent in the first package were very perfect as also the leaves from the same plant, wh, as I remarked to you were very flat & of great length, & I regret that you did not get them. I however did retain some of the seeds (Black), & broken capsules,

* from Seabrooke's – NEW River.

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quite sufficient perhaps for diagnostic purposes. These I have enclosed in a little box sent by mail with this letter, & mailed as a letter, so as to be sure of yr getting them, — it contains also a few seeds of Agave V— & Pinckneya. The former from unusually large plants wh reminded me very much of the yucca. The gentleman who sent me the above yucca seeds & leaves from Newbern, promised me to dig up the whole plant & send it to me, as it was growing in his corn field & he wd soon plough it all up. But I have not yet seen it! I imagine it is the same wh grows immediately about me here, — perhaps only a more luxuriant specimen, & very different I conclude from the James Island Y. F wh also I sent, & wh it is to be hoped you have rec'd by this time. Please let me knowing the last from Charlton has not come to hand, — if this be so, I shall get my relative to procure other specimens for you. I have no doubt that this last corresponds with yr Aiken plant, wh has a trunk, (I saw only two however with trunks) & with leaves spoon-shaped, — rough, & of a paler green than the Y. f wh here.

Undoubtedly these two would strike the most casual observer as being different! — strange that I did not see them both growing side by side on James Isl, for the soil therefore is pretty much the same as it is here, — nor on the other hand have I ever met with the Jas Isl Y. F here. I send also in the box a few seeds of a Y. F (!) with portions of leaf, from the middle country of this state — Orangeburg Co, — between the two forks of the Edisto.

* Enclosed in this letter

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We happened to "refuge" there as the phrase was during the war, & there I remembered seeing a yucca wh I called filamentosa, tho' I believe I only admired it, yet never examined it. I was anxious to compare it myself with that abt here, as well as send it to you; so some weeks since I wrote one of my old friends of the "Dutch fork", — (a shrewd & observing man, tho' themself illiterate) desiring him to examine these plants & send me leaves capsules & seeds if he cd find them, & at the same time tell me whether it had a trunk. I sent him drawings &c so as to be sure of his understanding me. I soon recd a very obliging letter from my old neighbour wh gave me the information I requested, — also 3 leaves wh I send, & the few seeds he picked up. These last are certainly very diff from the black seed of the New York specimen. Are they indeed yucca seeds? — perhaps you will recognise them as akin to the Alleen plant. As for the leaves they are small & mutilated, with the tip cut off, so that I cannot say whether they ~~too~~ resemble the "Stiles Pl" I as Isl plant — or not. They are however similar in having coarse filaments, & in being rough, but they are vastly smaller & narrower. But you will one of these days be able I trust to determine for yourself! I enclose also the Countryman's sketch (I think he beats me as a draughtsman!!) as also his notes. He says it is trunk-less abt him! ——————

As for the Y. Gloriosa of "Stiles Pl" I as Isl the flower stalk was big enough & strong enough to have borne the weight of any no of

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"bananas". I think Cain might have done his work of blood very faithfully if armed even with such a club as this, — especially too if he had cut his green green! It seemed to me almost gigantic compared with those dried flower stalks on May River Bluff of wh I wrote you. But then the "Stiles Pl." specimen was growing alone on the little Beach, with room and "to bourgeon & to bloom" after its own fashion, & absorbed that it ~~and for~~ from the subtle influences of sea, & sky, & earth, — and it may be many a day before I see anything a good deal finer! I sent you some 6 or 8 inches of the "butt". I am pretty well satisfied now that the plants of wh I wrote you as having been found on the Bluff of May River — are only Y. gloriosa as I suspected, & I see how my doubt originated wh I must immediately explain, for unintentionally I may have misled you. These last are only the wild plants growing perhaps in an unfavorable situation, the 3 others in the old garden of wh I sent you leaves & wh you recd, are evidently from some cultivated variety. I believe in my first letter I remarked that I knew of but 3 or 4 plants about here, referring to those in an old garden; — I had supposed that they had been taken from along the beach on Hilton Head, or Daufuskie Isld, — about 10 miles from here; when I knew these things grew. Never having examined any of the species with anything like care (altho' I knew them all roughly) I concluded that the garden plants wh I described & drew for you were the wild or native Y. gloriosas! But not so, it appears! After an examination of those I knew to be native or what I thought to be such I wrote to the old i-

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Rec'd Feb 7 1871

(5)

gentleman who had nursed & planted this spot many years ago, asking him — "where these gloriosas from the beach, or from some gardens of the cities?" He replies that he purchased them ~~from~~ in Augusta Ga & that he had never seen them fruit, altho' they had bloomed often! So you see how I committed the error — in taking things for granted! There is but little difference however between the "Stiles Pl." J. S. gloriosa & these garden — Augusta Plants, except that the latter are shorter & taller, & perhaps rather more densely leaved! I shan't take things for granted again I can promise you & you must pardon me for this time! If you fail in getting the Sav. Sd specimens I will send you leaves of the native Y. f. as well as other fruit of the Dracenis if you still desire it. But what to do with the mails — it seems they fail to carry them? _____

As for the Cactus "pin-pillow", no one that ever I saw or asked had ~~ever~~ seen it blown — ! This I had heard Mr years ago when a boy, often having heard the question put, but no one had ever answered "yes!" My relative on J. Sd who is a man of much observation told me that he had never seen it blown, nor had he ever seen any one who had. How is this? and yet they multiply themselves largely; Of course I am aware that they easily transplant themselves, & that an old leaf (I was going to say — but not now since your kind explanation) or joint, would reproduce itself, but I conclude this is not their only mode, but that seeds may be carried by birds &c. Be this as it may I do not

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from the flower, whether it be pink, or yellow, blue, black or green;— altho' I did see the fruit when on the ises (29) the 8 the day. All along the Ashley on Jas Id there are ~~[illegible]~~ redoubts & works of intrenchment &c wh we threw up during the war, all of wh were beautifully faced with salt-mud, or turf, from the neighboring shore or creeks. This turf is now partially decomposed & mixed with the loose sand, & on this I observed this Cactus growing, forming a perfect mat-work or carpeting on the ~~sft~~ slope of the traverses &c. In this situation the "pear pillows" seemed rather flatter & more luxuriant, ~~but I imagine~~ than when growing in the barren sand of the sand-hills, but I believe they were the same. & it was here I saw one "pear", but no flower of course. Pogitt your work on the Cactaceæ wh I trust will come to hand in a few days will enlighten me as to some points. Let me thank you again my dear for your kindness & courtesy.

If the book secures the sooty fingers of the P O Officials, or rather the itching palms of the Puritans (who like locusts are among us), I know I shall read it with int & shall value it not a little: As for the intermediate variety I think it is about as generally perstate, but occasionally perhaps semi-erect, but I ~~set~~ answer with no certainty. It ~~is~~ can however be very easily determined.

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I am curious to know what you will make of the efflorescence on the Bracnis leaves. I do not think it was saline, I tasted it; it was not salt — it was rather like powdered flint.

I have never seen Uvaria Latifol, it was a mistake of mine, — it was not even ignorance! I referred or connected to U. Panicu.

What you tell me of the Water Chinquapin (Nelumb) is all new to me & very interesting. I had never even heard of the tubers, nor of them being edible — ~~[illegible]~~ the only thing edible about them I supposed to be the nuts, wh, I remember my father told me he used to eat (roasted I believe) when a boy. Perhaps one of the most beautiful sights I ever witnessed was a large shallow water back of a river-field, with hundreds of these flowers in bloom with here & there a water lily interspersed, & coots & water hens & duckling & diving under the enormous leaves. A sight not easily forgotten!

As for the cold spell about Christmas, — it was bitter indeed! — the "Oldest inhabitant" referred to as a — Comer to the winter of

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1835! at wh time he informed me that the cabbages of the large Palmetto — i.e. — the heart wh we eat, & wh is hardly equalled by any vegetable, — were all frozen, so that the trees died by hundreds. This on Edings' Bay — Edisto Isl. The statement seemed very astounding but I do not see why I shd doubt my informant. Certainly it did not happen here this winter, tho' I'd never felt angered like it in the Low Country before. In a warm room close & cider — sitting near the fire froze — a thing I never saw near salt water before, in "up the country" this wd not be remarkable. All of the orange trees about here seem to have been killed & the same thing I observed along the streets of Charleston & also on James Isl. Possibly the trees are not as badly hurt as has been suppose.

I find my self that I am running on with the garrulity of an octogenarian; in future I shall endeavour to condense so as not to "tarify" you as the negroes say with my much talking. Let me conclude by re-marking that all that you say in ref to the terrible struggle in Europe I feel to be only too true. & with thanks for yr courtesy

I cannot find my pressed specs of flowers I sent last summer!

I am very truly & respectfully
yours
J. H. Mennerson

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Recd Febr 7 1871.

No 9

I have opened this package for the purpose of adding one other capsules & seed of the Y. filamentosa found quite near me on Salt water, so that you might have two specimens (the other from New River) to compare with the Acken Y. f. I remarked to you in my first letter that our Y. filamentosa just about here, so far as I had observed, — had no trunk, but undoubtedly this plant from wh I have taken seed & capsules did have a trunk & stout one too, — of about 4 inches, or very nearly! I send also a leaf, the flower stalk was full 8 feet.

I found quite a "patch" of these plants growing in an old sandy field several of wh had trunks, tho' not quite as high as this — from 2 to 3 inches.

The cactus about here also I have since examined & send two "pears" one of wh had taken root. This is very diff. from the Beaufort plant of wh I wrote you & wh

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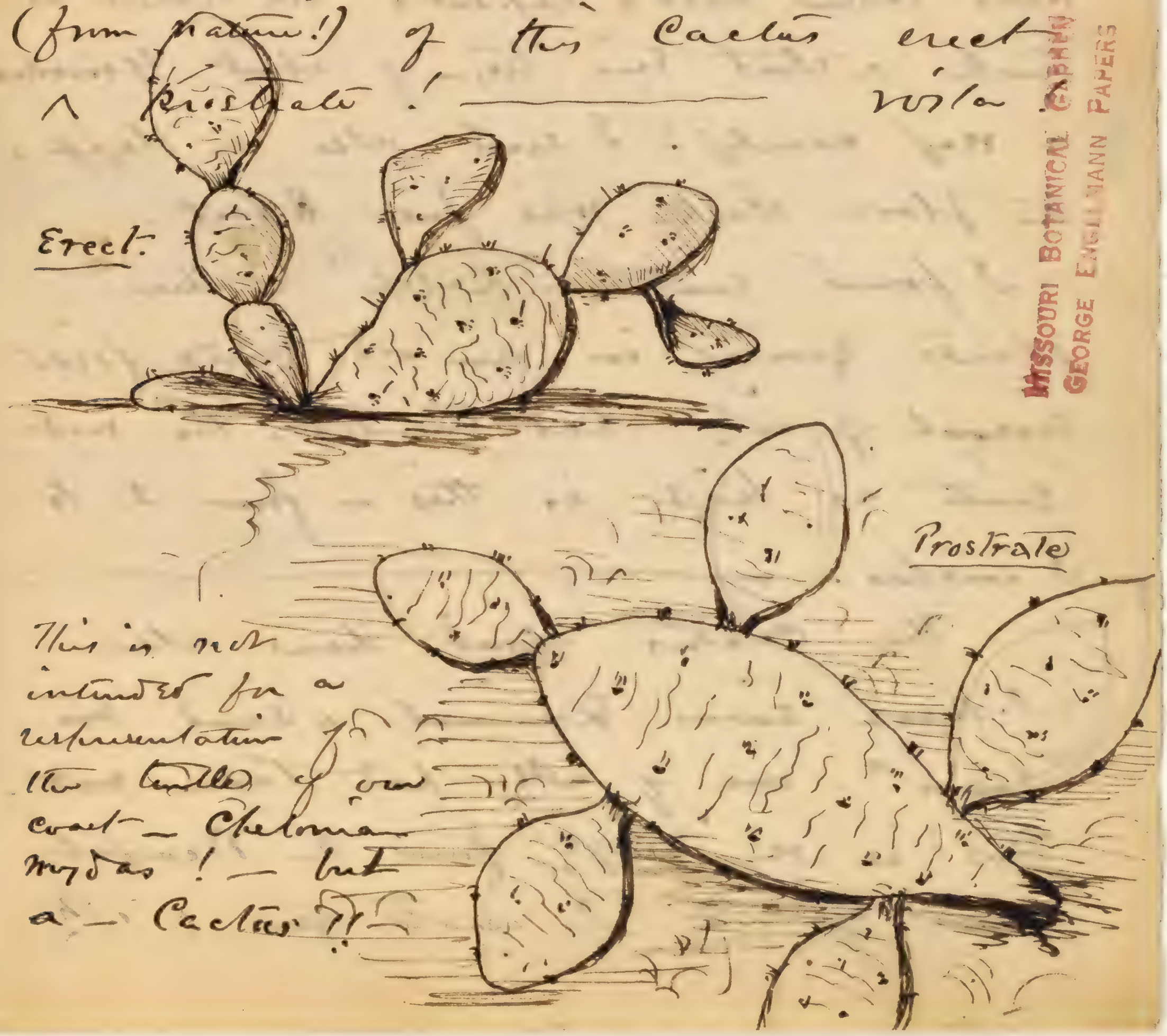
It is supposed the Spaniards may have carried them from St Augustine. You will find a half or two thirds of all the plants prostrate, but numbers also semi-erect or erect. I refer to the stem, or first joint or articulation wh comes out of the earth. Indeed, I think I ought to say that quite as many are found erect as prostrate! The joints are mostly wrinkled & hot fine spines. Here is a picture as Peter Parley used to tell me when a boy — Here is a picture (from nature!) of this Cactus erect & prostrate! ——— Viola!



This is not intended for a representation of the bulbs of our coast — Chelonias mydas! — but a — Cactus!!

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Rec'd Febr 17th
ans March 3

1

Bellevue Ill
11. Feb' 71

To —
Dr Geo. Engelmann
My Dear Sir,

Fearing that probably my letter & box with Cact. specimens of the New River F. f.ª & also from the immediate neighbourhood may have shared the fate of the others sent — I send you a capsule & seed of F. f. from a sandy hill (Huntingdon) near here — trunks from 1 & 2 inches to 4 inches in height. Have stalk from 4 to 9 feet.

Should you chance not a leaf from the Gas Ld F. f. which seems so rigid from this (as I have remarked) I can procure it from previous there. That the F. f. almost never should be found with a trunk is over to me, but there is no doubt about it! The hole why you expected to find another mount

has I expect to go with yet
awhile. Take care it does
not arrive the worse shaken of
some hours carpet bagging from
N. York! — adieu!

Yours truly
C. A. Neumann

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V. S.

I enclose also Lycoris Mantinia
& Podostigma Pubescens — these
plants, i.e. the Asclepiadaceae
are "my pets" — not that I
know anything about them
botanically, but they flourished
from a beautiful plume and
I'd rather meet a "stranger"
from this family than any
other. Last summer I
met with the accurate Linnæ:
near the 8th time of Pungeting
for the first time! The seeds I
sent you in the 25th 30 Rowell
but you never did them!

Yours

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Rec'd March 3d
10

2

Bluffton
St Miles Pk Co
25 Feb 71

To —
Dr. Geo: Engelmann —
My Dear Sir,

Yr last letter informing me of the safe arrival of the specimens sent I rec'd in due time, & I write now to say that Yr box has not yet come to hand! I fear that I now must give it up "for good" & I regret it much — partly I may get do something in the matter of uniting to the N.M in exchange, wh I intend to do. In my last note sent a month or two back I enclosed a last specimen of Y. filamentosa from "Hunting Gds" wh had a large & well formed capsule like

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that from New River (Leakin's). I conclude that those sent in the little box were imperfect, tho' the plants themselves were fine, having a trunk & tall flower stalks: I think I shall without doubt succeed in procuring flowers for you this summer wh. I conclude will settle all yr. doubts!
As for the Gas Gdn. "Stiles Pl." plant wh. you say is the true Y. f —, it certainly is diff. from the Y. f about me here & I find none of them here after diligent search. Possibly the flower wh. Mr. Rockwell sent you from Aiken is the one I got him last summer, for if I am not very much mistaken I did send him one. I have not seen any plants of the Y. Macrinis having that efflorescence except on Gas Gdn — certainly I have not observed it here, — curious is it not?
I enclose specimen of Solidago Diffusus wh. possibly does not grow about you. The long hard seeds I have never been able to find.

Yrs sincerely in haste
E H Mueschenborn

P.S. Possibly my backwoods man thought that one seed was as good as another — or perhaps for the honour of the thing he wd see if it was possible to catch one napping! I was doubtful of it myself, as I believed I asked you if there were indeed the Y. f seed but being ignorant rather of these things I thought as the plants differed so might the seeds. Let me say that yr. letters afford me great pleasure but I wd not have you waste yr. valuable time on answering every note from an "outsider" like myself — but shd. you really have leisure I shall be too glad to hear from you — meantime it will always afford me the greatest pleasure if I can help you!

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(1) Dr Mellichamp

"Capflor" March 14th 1871

Yucca filamentosa.

No 3 * — "The fragment of capsules sent before also from Saltwater — Hunting Seed" belongs here, but most of the capsules were defective — or at least had a peculiar shape, somewhat compressed in the centre if I mistake not — as thus ; Others from same field when perfect.

* See Appendix

These had a trunk to me here!

No 4, from "sandy soil on edge of cotton field" I consider the same as No 3.

No 5. "From Seaborts, New River". This also I suppose to be the same, tho' I've seen nothing more of the plant — not sent me as promised!

No 6. The two leaves marked "+ Yf?" are the same as No 5 — taken from the same plant, — at least, so I was informed by the gentleman who procured them for me. I don't think either No 5 or 6 had fibres — the last I considered were taken from the lowest leaves, — probably the fibres had become detached by age. I do not doubt but that they came from same plant!

As to the Y. filamentosa even ce —

"Y. Fil^a"

(2)

— curving without fibres I cannot say.
I expect therefore the same opinion as at first — that altho' there may be certain variations in ~~[illegible]~~ the Y. f about me, yet are they all one! Differences in soil &c I think will acct for these variations, wh after all seem very slight, & apparently the plants differ but little from the Y. f. wh you have first sent me.

But I cannot say this for the "States Pk" plant! — That seems to me very diff. with as to form & texture & colour. The flowers this season if I can get them will decide.

"Yucca Glorioso"

All of these Nos 1, 2, 3, 4 I think the same, tho' they vary somewhat, but for No 6 I am doubtful. I prefer to these marked X "not single, not blades, nor dentated but smooth & flexible" & growing together in a clump in a "brown grass bed". Examine them again to day & send specimens in a package of pins by the mail. Possibly Y. filamentosa without fibres — who knows?

"Y. Macrocarpa"

All the same, save for the efflorescence!

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1

Bluffton Mo

17. mch '71

To — Dr Geo: Engelmann

St Louis Mo

My dr Sir

I was greatly delighted yesterday to get your letter of 10 mch announcing that my "unknown Pine" was a new & good species, & I am more than compensated for any little trouble. The collection &c of the specimens occasioned me — by your satisfaction & enthusiasm in the matter!

I am sure I am very glad thus to assist you & to contribute in my small way to the furtherance of Botanical knowledge!

Whether this pine however is indeed Elliott's Hetero phylla (of Wm) he gives so conjoined an acct of it, or, on the other hand his P. Rigida (wh by the Eng

Chapman does not state to be found in the Low Country of S C or Ga) — is — still a question! As regards Heteromyella, Elliott speaks of it's being found near the mouths of freshwater rivers, whereas this is a saltwater species, tho' it is indeed common about Hardeville on the Charleston & Sav R. R — 17 miles from here! & that place is not over six miles from the Sav River. Also, that the leaves are indiscriminately mingled, two & three even on the old branches, — wh. I think may be correct, tho' about me the leaves are almost always by two. This indeed with the very early dropping of the cones & their conspicuous beauty on the trees (of a rich brown colour) was the first thing that struck me last Fall! Also, the "sterile flowers" at the summit of the branches & the excessive discharge

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of pollen! — certainly more so than any other pine. "Bark as smooth as that of P. Palustris (aus.) but in larger scales", — This also is I think very marked. But! then on the other hand what tree did he have in mind when describing P. Rigida? — for apparently this is not found in the low country of S C or Ga? You speak of the resemblance of this pine to P. Australis, especially refer to the terminal female amts, but is not this the case with the young trees of P. Toda? — or, from my ignorance & inexperience in such matters have I failed to catch your meaning? I enclose female amts of P. Australis, P. Toda (young tree) & the "unknown pine"; — compare the latter with P. Toda, are they not similar as to position? Now on the old trees of P. Toda I have seen the fertile amts

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4 thrust out from the side of a cluster of the stems, but this is not so is it in the specimen from the young tree (P. Tæda) wh I enclose? And this I know to be P. Tæda, for I examined the cones & leaves carefully, & I believe I am pretty familiar with the tree. But this very thing I have not apprehended yr exact meaning. As for the habitat of the tree it is found interspersed with the other pines both in the sandy soil along the river (May River), — on the little low isls of the marshes & "sands" — where it is rather stunted, & also in the sandy pine-barrens, where it becomes a lofty tree. In the neighbourhood of Hardeeville it is abundant & continues along the Charlston & Sav RR for some 20 or 30 miles. I think I lost sight of it about Yemassee & Pocotaligo, & did not see it at the various stations as you goon to Charlston — of Ashepoo, — Pon-Pon, Combahee, & Edisto. (I dare say

Rec'd March 25 1871

you may recognize these old Indian names, having met with them in Elliott; — I like to write them as they are pretty much all we have left of the Carolina of olden days!) About Chester I failed to observe it during my visit to James Island, but this is no wonder, as most of the trees were cut during the war. The cone to me presents the most striking difference in comparing it with others, & may be recognized at a glance by its form, its rather close imbrication, its rich brown colour, & the purplish tinge of the inner portion of what shall I call them — the arms of the scales? This is very marked when they first fall & add much to the beauty of the cone. I sent Mr R — some 6 or 8 of these of all sizes both from sandy soil & damp pine-lands. I conclude he may have sent you one or two. From time to time as the pine declared itself I have ~~sent~~ ~~them~~ mailed to him good specimens, so that he is well "posted" as to its peculiarities. On the 15th I mailed to Mr a package of all the pines with exact dates of the time of collection. By examining these & comparing them, I think you may arrive at a more accurate knowledge of the progressive flowering than even I can,

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6) who have not them now by me. The season with us has been early; — but without the above species I will say that —

P. "Unknown" — flowered — about — 15 feet

P. Australis — " — " — 1 inch

P. Indica — " — " — 5 "

P. Glabra — " — " — 10 "

P. Mitis — " — " — 25 " ? ? 1 doz

P. Serotina — " — " — 1 ap ?

I don't know what it may be in other seasons, — the Judas tree (Cercis Canad) has for 2 weeks last been in a flame on the road sides, & the buds of the gum tree (liquidamber styraciflua!) dropping, & the glory of the Jessamine warning, — to say nothing of Sassafras & Prunus Caroliniana &c &c!

× with letter 15 inch

Very truly
yours
W. H. Manning

P.S. —

As I sent complete specimen of all that you desire for the present I shall not send others unless I hear that they fail to reach you. I have duplicates of some. At the right time I shall endeavour to procure the more advanced ones &c. The bulb has not yet come, but as must object to you as I am, & as much as I'd like to receive it I think you had better not trouble yourself further in sending that which can never be replaced!

I enclose some of seeds ~~that~~ which when you have received you will greatly oblige me by examining, & telling me (if possible) what they may be, for I found them in a very out of the way place: they may be very common but I do not know them; & for certain reasons my curiosity has been greatly excited — But I shall say no more — lest in my blindness & ignorance I find that I have stumbled on a "mare's nest" !!! I have sent the same to Mr S— with the same request —

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Wed. March 25 1871

(7) P.S. No 2 As regards Elliott's "Heterophylla" I ought to tell you that last Nov. while passing over the line of R.R. from Hardeville to Savannah just after crossing over the Sav. River I saw for some miles a tree, wh., so far as I cd. judge when the cars were not in motion — was a P. Toeda, & wh had a remarkably smooth bark. At the time I wondered whether this was not E.'s "Heterophylla", but I had no opportunity of coming for further examination. Since then I have been continually on the watch, & I certainly have seen 30 or 40 trees quite large & undoubtedly P. Toeda with a reddish & smooth bark, — nay smoother than "P. Australis" — with ~~a~~ no furrows hardly at all. Now P. Toeda has a rough & black or grayish bark, & more deeply furrowed than any other pine I know of! Does this smoothness result from extreme age, — or can this red & smooth barked tree be indeed the Heterophylla? There is one near here but it is lofty & I have failed to obtain aments & fruit. Perhaps I may yet tempt or bribe some Gorilla or chimpanzee who is "a man & a Brother" to climb the same for me, & see what may be the result! If so I shall inform you, but I don't anticipate that marvel will come of it!

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P. S. 1103 — 18. Mo.

(8)

I find that the rage of writing is upon me — yet are you alone to blame, for Enthusiasm I have observed is far more contagious sometimes than disease! Let me state therefore what a man told me this morning when I met on the road engaged in felling timber. "Do you know such a tree as the Smooth bark Loblolly Pine"? (Elliott's name you may remember for Helenstha.) "Yes! I know it well — often seen the tree"! "Where"? Near Mrs Vaigneurs' old field on Saramah Riv Swamp — a — growin' on the knolls like." "What sort of a looking tree is it"? "Smooth bark — kind of darkish, has little short straws (leaves) not longer than that" (marking 2 or 3 inches on his finger). "Why thats' the Spruce Pine (P. glabra) you are talking about — that has a smooth bark & short straws, — only two straws together — Thats no Loblolly"! Countryman somewhat abashed, but desirous to show fight — "Well I don't know what you call it, but old Mrs Hudgins took particular pains to point it out to me when we was in the swamp & he said it was Smooth Bark Loblolly & I believe he ought to know"! What further did I say & how did I profit by combat the authority of Mrs Hudgins. But there's no telling — he may be right yet I think he was describing only P. glabra. He promised if he went into that neighbourhood to bring a branch for me & also to go with me to a P. g — & say if that is Mrs Hudgen's tree. And so what becomes of my Smooth barked — Reddish Loblolly if Mrs Hudgens' tree be indeed Helenthyllos! ——

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Recd March 28
ans April 20

Bluffton Mo,
20. Mch '71

70 —

Dr. Geo: Engelmann
Mystic Sir

I have recd three letters from you lately, — the first containing a leaf of "P. filamentosa" I answered immediately, in wh I anticipated I believe [redacted] of yr queries, & at the same time sent you a package containing complete flowering specimens of all the pines about me, — male & female & with cones of the spring of '70. Those of P. mitis & P. Serotina were not so good as they have not yet put out into full flower! A second letter of 10 Mch announcing yr belief that the "unknown Pine" to wh I called yr attention was "a new & good species", & this also I have answered, at the same time enclosing specimens of the young cones of the yr of "P. australis,"

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"P. Tada" (young tree) & "P—?" (unknown) with notes & queries thereon. And now to night yr last of 15, mst wh I proceed to answer briefly, — as I have (as before remarked), anticipated many yr questions! The "unknown Pine" I find almost invariably 2 leaved, — rarely 3 leaved; — occasionally 4, twos & threes on the same tree, and on one or two trees growing on the roadside I have found the leaves altogether 4 & threes! This perhaps owing to a free & open situation & in good soil, — of the very many others here — Exc Ex annual they were as above stated mostly 2-leaved, & it was this with the peculiar cone wh first struck me last Fall! The * cones vary from ~~3 1/2~~ 4 to 6 ~~1/2~~ inches ~~lengthe~~ — generally I wd say about 4 1/2 inches or 5 inches or — Vegetables — Colour & appearance described in my last. As regards the popular name altho' I have asked many questions of different persons present.

* I have just measured 3 or 4 of the old trees in the Pasture — but this might be owing to the season.

* So, if I recollect, I saw a great many old trees of different sizes

I have not been able to satisfy my-
-self, as you invariably get a diff^t
answer from each person: One told me
it was called the "Bastard Pine" wh^h I
thought somewhat appropriate, & another
(a negro) the "Slack Pine", but this
name a Yankee wood cutter as I
told you gave to the "P. Mitis" when
his attention was called to the latter
tree. I find it is almost useless to
ask even wood cutters about the
very trees they cut, — their answers are
so contradictory, & the names by wh^h
they designate trees so complicating &
differing ~~differing~~ apparently in diff^t localities.
Add to wh^h they are often "pig-headed"
& soon contradict themselves! There
is but little doubt that this tree is
separate & distinct — by itself, — my idea
was that it must be Elliott's P. Rigida —
(this neighborhood (Beaufort Co))
~~[illegible]~~ was his old Botan-
-izing ground) or, — possibly his variety
Heterophylla. But I do not feel
at all certain; but I know of no

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George Engelmann

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other trees about here than those given before in my list. I mentioned to you what a wood-cutter told me of his preference for P. australis (yellow Pine) as timber but that this was also good. Let me repeat that I know nothing of Elliott's P. Rigida as a tree distinct from this nor of any intervening pine between the P. serotina here (Pond Pine) & Mr R—'s. I have never seen his & know nothing about it! When the P. serotina is in full flower I will send them to you by mail, but if you prefer I can still later send branches in a box } Express containing, if possible cones of the spring of '69 – '70 & '71 wh will make the specimens complete. There may however be a good deal of delay as we are now almost shut out from the world ("outside Barbarians" like the Celestials!) & the opportunities of getting off anything to China & Japan by safe hands not so good. I think it very doubtful whether you can get a copy of Walters' Flora wh I've never seen — if I mistake not Dr F. Peyre Porcher of Ch'ston is a descendant of his, & he perhaps or Mr R— may be able to inform you. — or — you might try Bailliere & Co of N.Y. who I believe deal in rare & scientific works.

P.S. I shall be very busy & very busy till I write out in a mail a list for yr list — thanks!

C. G. Muenchausen

Recd March 28th 1871

PS – I send by this mail P. Serotina & also a branch with cones of last yr of the "Virginian Pine" – with 3 leaves. This from the roadside.

I do not yet feel at all certain that this is not Elliotti's P. Rigida, for if it be not that, I cannot imagine what tree he had in mind growing in the "Low Country" – but it may be his Heterophylla! As for Mr Curtis' tree, I cannot think if it be the same as my "virginian" that he was for a moment have classed it as a variety of P. Tæda – This mistake indeed I made for some time, but before I had examined the cone I was but then I am only a dabbler in such things. The statement he makes about the timber is remarkable – for

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There is no doubt that mine
is very serviceable as such
& wd not be rejected by ship-
-carpenters (so I was told!)
tho' the "yellow Pine" of Australia
wd be preferred. This however
is not much of a timber
country & there are engaged in it
am not I imagine "Experts".

E.H.M.

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Bro Mark 21st 1871 (5)

Then comes I forgot to say (did Mr R send you them?) say a good deal in length, but the inclination is closed & compact & besides they are of a rich brown colour — having a varnished look.

I send specimens from several trees of different dates of the aments & of P. glabra, & today was fortunate enough to get from a tree whose branches extended out into the saltwater marsh & all perhaps are later by very 100 — the very young cones of this season or perhaps I should say the fertile aments. On this tree the old cones are almost invariably paired, — tho' you will observe that the young cones of Spring '70 are single. The pair of bunches of '69 as you will see have been broken off. There are but few of P. glabra here but the most unpractical eye can select them; — this tree from wh I take the fertile aments was growing on a little bluff on a creek running up from May River (Buckingham plantn) surrounded by hickory, Magnolias, Laurels, Palmettos with here & there a Fetia — (P. Pubescens) Rich soil you see! ——. No use is ever made of the wood — perhaps because the tree is so scarce here, but the grain is very coarse. The same lumber man told me he made "a splendid pair of oars out of one of 'em" for his flat, or boat & that they were "springy" & "as good as ever he cared about having oars" &c &c. All this for what it is worth — don't think my information very reliable. As for P. Mitis — rather a miserable

(6) & scraggy looking tree about one with a rough & ragged bark. No use was ever made of the wood for the Planters always used Lobbolly – (P. Taeda) when P. Australis & perhaps the "Unknown" were not to be had ~~[illegible]~~. A parcel of Planters however who have put up a saw mill in this neighbourhood are cutting everything right & left, & as it will be all grist that comes to their mill – they have saved up some of these pines tho' they are small & inferior. The wood seemed to me to have a reddish appearance – softy & rather coarse. I imagine it will be good for sleeping purposes.

One of the above worthies called the P. Miltis – "Slash Pine".

My dear Dr – I fear you think you've caught a Tartar in me, so I must close { seeing once again (alas!) that the holy days have not yet come!

Yours ever in haste
C. H. Merriam

P. – (Unknown)
P. Australis
P. Taeda
P. Serotina
P. Glabra
P. Miltis
2 leaves of a yucca –

I must beg you to pardon my scrawl as unusually I've been compelled to hurry.

I am not certain whether the little box I sent long ago & containing yucca capsules &c and cactus fruit came to hand. I conclude it did.

I conclude you have rec^d the 2 packages sent — & 3 letters.

Rec^d April 4th
Ans — 20
To —

Bluffton Mo
29 Mch '71

Dr Geo: Engelmann

My dear Sir

Your very courteous letter of 11 inst was missent to Beaufort & I've just rec^d it; it is to me very instructive, & I now see very clearly the differences wh you point out as to the terminal position of the female aments. I was not satisfied however until I examined the branches of the "Unknown" (a shrub I say?) Elliottia at once!) containing the young cones of 1870;— thanks for the trouble you have taken with me! But after all said and done do you know that I still have doubts as to whether this Pine be indeed Elliott's Heterophylla;—! I believe I am about to repeat what I said in a former note,— but it shall be brief. First,— the Heterophylla is said to grow "along the marshes near

the mouths of fresh water rivers," — whereas I find it here on salt water not more than 10 miles from the ocean — both in light lands (cotton) along the "Bluff", — as well as in the damp pine-barrens. Also on the little low islets in the midst of "Sands" & marshes, — in wh. situations it excludes the other pines, & where also of course it becomes a stunted tree. Besides, Elliott speaks of it as growing among other "forest trees", — whereas, about me it is found only among other pines — as P. Serotina, Australis, & Toda! — and indeed immediately on my River Bluff there are some 50 or 10 acres entirely "given up" in young trees of this pine! Furthermore, says Elliott, — "It has more sap-wood than any of our pines," but our new pine is not rejected by lumber-men, & indeed some of these men told me yesterday that it was excellent timber — tho' of a coarser grain than P. Australis, & that in some respects it was preferable, as it was never found "wind-shaken" — to use their expression. I examined too a stick wh. they had just cut for market, — it was 61 feet clear of limbs as I saw it, & I was told there were 5 ft. more, — a specimen of this I enclose. These men also informed me that they had often cut there much larger, — one measuring 87 feet clear of limbs & 19 & 20 in. after being squared (stalk) After that generally this was a much taper tree than P. Aust.; & of the correctness of this I have no doubt from what I've seen even here, — for in damp lands it is far more lofty. Now as before remarked this place is in the range of Elliott's old Home in Beaufort (about 25 miles from here of water) & I believe he must have been familiar with all this neighbourhood; — certainly he frequently refers to Hilton Head (8 or 10 miles from me of water) where most probably he frequently visited — as his own kinsfolk have owned land there for generations. [At present of course in the hands of negros, yankees & other vermin.]

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If then our pine be indeed Elliott's Heterophylla, it certainly is strange that he shd have referred to its being found only about the marshes of fresh water rivers" &c. Beside, he often mentions the country along the "old Petersburg road" in diff. places in his mss, & it is in that neighbourhood (Hardeville – Grahamville &c) that this pine is so abundantly found, & of greater magnitude than here. Must he not have seen it there? – if so, why refer only to the above mentioned fresh-water rivers in Ga ?!

Strange! to say the least! In other respects the descriptions agree – leaves 2 – 3, – the flaking of bark in larger scales than P. Ous., & the very abundant pollen. On the other hand now what is the P. Rigida of Elliott! & who ever saw it in the Low-Country of S.C ? I believe I mentioned that this pine exudes a vast quantity of gum, – the wood cutters all refer to this, yet one of them told me that the "hands" attached to a Turpentine still near Hardeville were ordered not to "dip" a spoonful from the tree, as it invariably "burnt", – as he says, – whatever that may mean! But I don't know that all this will help you locate the tree, – yet it may not be irrelevant. My "Smooth Bark Lobloly" friend (of whom I write good) still insists that his tree growing on the knolls in Sark River Swamp is neither the Spruce (P. Glabra) nor the other ragged Spruce (P. Mitis), but a diff. tree & very lofty; the former tree he is entirely familiar with, for he said the smaller branches were "kind of silvery like", but his tree was diff. from them both! He has promised if he gets into that neighbourhood (as he hopes to do soon) to bring me specimens. I hope I have interested him in the matter; but these people are generally very unreliable. I still think his tree is only a very fine swamp – specimen of P. Glabra. —

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As for the name of the new pine, Mr. you kindly refer to, — in any event Elliott's name is the appropriate one. ~~for~~ In obedience to Yr. request I have collected complete specimens of all your pines save P. glabra, & shall send them in a box as you request. I repeat that it gives me pleasure to serve you if I can. The male flowers of the "Unknown Pine" having bloomed in mid-Feb, I collected only 3 branches, — one wh. I sent Mr. R—, another myself, & the last I still have & will send in box, — tho' of course I can get other branches from Mr. the ants have fallen. I am enabled thus to get what you wish owing to a fortunate gale wh. lasted but for a very short time however, & by no means so disastrous as that St. Louis one you've seen accts in the papers. It punished a large Pond Pine (P. serotina), & I've already selected the choicest specimens for you, — also P. Taeda — a limit them down at the same time. You see from what I enclose that the laggard P. serotina & P. mitis have at last acknowledged the influences of the Spring season! so you may put them down to getting as blooming 28 Mch — or 1. April, wh. perhaps will be nearer the mark. And now let me thank you very heartily for Yr. magnificent Cactaceae wh. has come to hand, — it has interested me much & the plates excite the admiration of all. Do you know that I very much incline to the opinion that this Opuntia of ours here is the same as Yr. Texas plant. — O. Macrorhiza! Looking at your plate I see no difference — the former prickly, — semi-erect & erect & joints over an inch thick & fleshy. I shall wait for the flower & see!

You must not be surprised if now & then for days I startle you with a specimen of Elliott's true Heteropyxis — for I think it can be found, & it will not be the salt-water tree! If our tree be Heteropyxis I can't think that Elliott wd. have placed it under Taeda, — so you see a man cannot get his mind is of the same opinion still!

Yours & ever C. S. Sargent

Apropos much cackling we are starting a new Journal — Garden & Forest — sometimes — I fear that the "Blue Bank Pine" is here called "Slash Pine" generally called "Bastard Pine" — sometimes "Bastard Pine"

GEORGE EN

You ask me why I take an interest in such things? only a taste I believe derived from my Father who amid many arduous duties as the rector of a Parish of in the Isle of Wight often amused himself with this study as a recreation & the result perhaps has been a Pleasure any more than myself derives much pleasure & satisfaction from it. "Simply this & nothing more" — add to this my life in the country & having something to distract the mind beside mere perfection (nice worthless) from the ruin & confiscation by taxes wh is fast culminating in war not against the foe, but the State. Please pardon such allusions wh I have no right to make — but I shall not offend again — it is so hard to avoid expressing some feelings on such a topic. I have written to my Tailor to keep a little cut for any mid-country gentleman who he has removed from a desolated home & Parish on the Sea-coast! — Pardon once agn for such Talk!

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Do not trouble yourself about hunting up the berries sent. I now find they Bluffton TC are from Zanthoxylum Chrysophyllum - (Mich) 5. Apr '71

70 —

Dr. Geo: Engelmann Recd April 11th
Ans — 20

My dear Sir

Your last letter of 24 ult. & 25 inst. has been recd & all the rest answered as well as I could, including that of 10 inst. (?) wh was missent to Beaufort. I have at last made a tolerable collection of good specimens of all the pines about me — placed them in a box, directing the Negro who takes the same to draw this in the PO, after. Engaging the former of Southern Express Co. from Savannah for. The passage is made in open boats, so that if caught there are many risks especially in the hands of these cannibal purposes, but I am in hopes it will reach you safely. Directed to 300 N3, Locust St. St Louis, Mo. Counting from below the box contains 1st, Specimens of Sagittaria Michauxii, a pulped young cone, — 2d, P. Australis; 3d, P. Elliottii; 4. P. Taeda — with a clustered cone var;

I have lately met with a valuable man — a native of P. E. — who says he can be useful in collecting specimens of the Pinus Palustris — he calls them Slash Pine & the Pinus Tuberculata — Scale of bark long & thick bark as you will see.

I have lately met with a intelligent — a native of P. E. — who says he can be useful in collecting specimens of the Pinus Palustris — he calls them Slash Pine & the Pinus Tuberculata — Scale of bark long & thick bark as you will see.

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5. P. Serotina; 6. P. Mitis, 7. P. Glabra;
8, — Still finding specimens of P. Elliottii
up to Date, — also a few of Yucca, —
berries of Sapindus, — Drupes of Nyssa
Capitata ("Gopher time"), Ol. Americana &c,
and 2 or 3 finds of a pretty pear
with a root 18 or 20 ft in length, wh
I suspect is the Opuntia Macrorhiza.
The seeds (2 or 3 of the larger wh you will
recognise) (under however an inferior micro-
-scope) - resemble the above also, & seem to
be of the exact size. The more I examine
yr work, the more I like it & the plates
are Exquisite, but I think I prefer those
of Rehmann to Pecot Pennis - thanks!

And now a word or two as to
P. Australis wh I've been looking at
lately, & wh seems to differ so much
from all the rest about me; and 1st!
as to its germination & early growth. — I
enclose specimen — how diff. from the
others! It first appears from the Earth
like a little tuft of grass, & remains
for a long time without apparently any
stem, or wh is so short as to be
buried in the Earth. The other pines

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on the contrary quietly assumed the look of a miniature tree & continue growing in that shape, while the former are for a long time mop-like (indeed I have frequently mis-taken them for a tuft of the "witch-grass" of the pine-lands! I have planted a few seeds of P. Elliottii to see if there be any decided marks of kinship in this regard, but I am pretty well satisfied beforehand that these also I enclose are P. Elliottii, as they were found where there mostly abound. But it's best to be certain! As for the cones being terminal in the botanical sense – I suppose they are – but is it certain? Please carefully examine the large specimen of P. Australis from a young tree about 30 ft high – the larger very much later its having put out leaves that year above the young cone, – or do the cones of P. Australis without doubt mature in 18 months? This same specn struck me particularly in the very great size of the young green cone, so much larger than young green cones of the same spring ('70) & taken from a large tree only 10 days before this. To look at the 2 cones of 2 diff trees one wd say that the former was that of spring '69!!! But I suppose it is due to the exceeding & vigorous growth of a young tree – yet I wd call yr attention to it even at the risk of yr thinking these things very idle & superfluous to one who has gone over the whole ground so often & so thoroughly as yourself!

But I find the lines: a very knotty subject (like their "pine-knots") & and I soon

'70 cone

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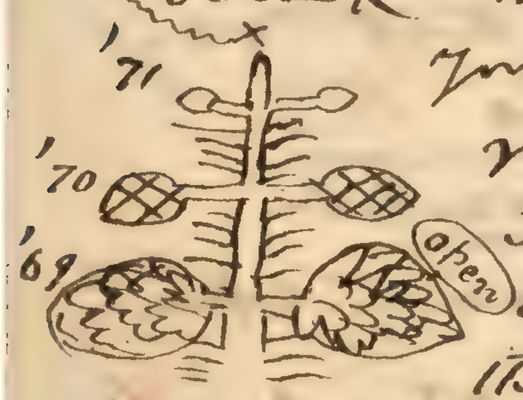
confused ~~in bottom~~ while attempting to disentangle certain peculiarities. Now for another thing wh seems strange & in wh P. australis differs from the others. You never find the young cones of 2 successive springs (say '70 & '71) on the same branch — at least I have not this season, tho I have examined a great many trees just cut by the wood cutters, & in lieu of all these trees, on only 2 did I find any of the green & new quickly growing cones of the spring of '70, but thousands of them of ~~'70~~ '71. This of course due to so many immature & dropping cones, still, I've been surprised to find so few, but never have I been able to find the green young cones of '70 & '71 on the same branch! Not so however with all the other pines, including P. Elliottii — you will find '69 – '70 & '71 on a branch with them all — and indeed on Sertinas you may go back still one, two & 3 yrs of unopened cones on same branch! As for the dropping of the leaves of P. australis again all that I've seen I do not think they drop until the summer or "fall" of the third year, counting from Spring to Spring — i.e., leaves of the Spring of '70 will not drop until the summer ~~of~~ or fall of '72! You will see that the axis of the P. E — is elongating as you have anticipated & the cones already coming to turn downwards. P. glabra are apparently both terminal & ~~non-ter~~ lateral as you will see. As strange as it may seem the cones of P. E — do fall — & earlier & more abundantly than P. a — all the rest cling; especially P. S & P. mitis, P. Teda also, but of these many more fall than P. S & P. m. One other thing I've observed, viz, that in wet weather pine cones both on the tree & on the ground wh had widely gaped — close & pretty tightly too, but as soon as thoroughly dried (as happens in a few days) they again gaped!



Thanks for yr letter — to me very instructive.

Yours & wife's C. H. Merriam

Rec'd April 21st
Ans — 23d

Cambridge 1/4

3

Burlington Vt
15 Apr 71

To
Wm Geo: Engelmann
St Louis

Mr Klay in changing the box of Pine specimens at Albany having been carried to Saratoga & thence to Troy, I hereby requested a friend there to attend to it for me & I now enclose the receipt of the Express Co. You will see that it was sent to you at least on the 11th & under cover should reach you to-day (Saturday). I trust the specimens will give you satisfaction & that they will not materially injure the moss contained in "Emerald" in the box.

You seem anxious to state the amt of expenses with Gen almost astonished to do — but you remember it & consider the times have changed with us here

Express paid in Sar. $3.25
negro carrying box &c 0.50
$3.75

Yours very respectfully
C H Peck

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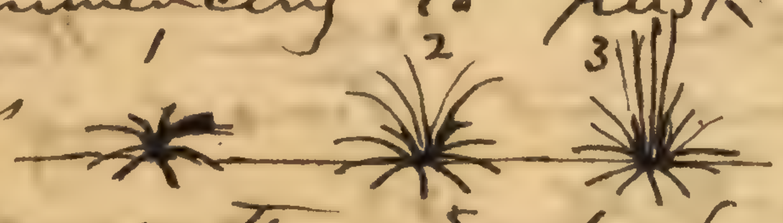
Rec^d May 9th 1871

Bluffton Mo
3 May '71

To Dr. Geo. Engelmann —
Mpls, Mn

It was very kind of you to take the trouble to write me that long letter of 20 ap. wh I have read & re-read with increased pleasure, & wh indeed was to me most instructive. I shall try now to answer your queries in their order with yr letter before me, & if anything occurs to interrupt me I shall break off & start afresh another time. The peculiar germination of P. australis has been very familiar to me & I thought it best to allude to it, but I did not suppose that it was prove new or especially interesting to you. I have not been able to procure a specimen of P. australis with only the cotyledon leaves altho' I have found some wh are very young, & wh you can examine for yr self. So far as I know the plant behaves thus, first appear the cotyledon leaves — then very quickly the single ones & immediately after the regular 2 or 3 leaves in bundles, — but I repeat that in my youngest specimens I find all three at the same time, but the two leaves just commencing to push! Look for yr self! Possibly thus



. Now if you will take one of the enclosed plants of P. australis you will find the three sets of leaves ins as it when three concentric circles, — tear off the

the outer cotyledon ones & you come to the few single leaves disposed to be erect, — lean off these & here are the regular leaves in sheaths or bundles occupying the very centre of these or the very young plants there are only 2 or 3; — sometimes 2-leaved, — sometimes & most generally 3-leaved! All of these diff^t sets of leaves apparently are on the same plane (shall I call it?) — perhaps the regular leaves being a little elevated — and this condition continues for how long? — one — two or three years & but a very little advance being made the whole vigour of the plant being directed to the making of a deep & stout tap-root & a continued increase in its circumference, but little or no elongation of the stem, — wh^h as I remarked before seems buried in the earth the true leaves springing from it as a centre & giving a mop-like or tufted appearance to the plant. In this respect it differs so far as I am informed from all the other pines about me. In a visit yesterday to a poor negro for the yr who was terribly burned — "I spaged a certain cleared spot in the Pine-barren" wh during the war had been used as the camping ground of a squadron of our Cav^y & it was literally covered with a thick growth of the young pines of P. Aus: & perhaps even you with your practised botanical eyes if you had not been familiar with their peculiar appearance would have mistaken these for very luxuriant tufts of pine-land grass! So thick were they in some places that you could not have placed yr hand between the plants for several feet without touching their ~~them~~ leaves & forgiving yr remark might have been taken for quite a green meadow in the pine-land, & very luxuriant grass!"

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The "butt" of these plants were not over one 2 or 3 inches high & the leaves erect about 6 inches or a foot in some places. Now with the other pines the cotyledon leaves are put out on the radicle(?) about 2 inches more or less from the earth, — then a stem commences to form running up quickly to 5 or 6 inches & throwing out the single leaves & next in the axils of these come the true leaves & the first year too I sup-
-pose judging from a specimen I have. It then quickly assumes the appearance of a little tree but the P. australis remains grass-like & 'but little elevated above the sur-
-face for a much longer time apparently — but then he does not believe in mush-
-room growths & spindling stems — He digs down & builds deep, laying a solid basis for the shaft he means to run up — thinking of the days to come when he shall "topmost Gargarus" & hell "stand up, — and take the morning"!

You must not be too certain that the other young specimens sent were correctly labelled — I do not feel sure, tho' almost so as to P. Elliottii & all of them I obtained from localities where such pines mostly abounded but there can be no certainty about it until the seeds be planted. None of mine have germinated — most likely imperfect seed. This fall however I can attend to this matter. As for the no. of cotyledon leaves in P. australis I do not feel sure, — they evidently vary — I find 8 — 9 & 10 but never more than 10. 10 I imagine to be the most usual tho' I cannot be certain. As for P. Elliottii that varies likewise — 7 — 8 &c.

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I forgot to say that P. australis does not branch until he arrives at the height of 4 or more generally 6 feet & then grows with wonderful vigor. Sometimes he runs up much higher still without a shoot thrown out to the right or left. The cone of P. aus. is very large as you know & generally of the same indefinite olive colour. but it varies in being darker when it then pines the foremen however is most usual & best observed in those just fallen & not exposed to weather. The cones in the box were those of P. Elliottii — I refer to those of glossy brown in the 4 corners & were sent to represent the extremes somewhat of their appearance, tho' I have met with them still smaller — but not larger. I have observed those differences you refer to as to the spines on the scales &c but I lay no stress upon that — I find the cones of all pines differ greatly — owing to locality &c & upon examining trees I cannot discover any especial difference — some with more 3 leaves than two & others many more 2 leaves than three — and so on. The Bark also in the box was that of P. Elliottii — a specimen perhaps a little exaggerated, but I find these long thin flakes on all the older trees I have examined. It is a remarkable peculiarity of the tree — this thinning off of longer — larger & thinner flakes than even P. aus —. Before these flakes are quite thrown off they from exposure to weather have a bluish tint (hence the name given by the woodcutters sometimes of "Blue Bark Pine") but to me the tree looks more red than blue on acct of this exfoliation of the old layers, & I have frequently picked them out in the woods among many other pines by this reflection here.

Rec'd May 9th 1871

(2) As for the differences in P. flabra I can discover little or none in the appearance of the trees except that depending on soil some being more vigorous than others. All of the cones (~~unless I am much mistaken~~) in the box came from 2 trees at "Buckinghams" not far a-foot, both growing on a kind of cove making up from the, river-marsh & one of these trees threw out its branches so low that they were laved by perhaps every tide. It was nourished by salt water & sea-breezes! Now I have just examined the cones from a branch wh also I sent you, & wh I picked up at the foot of the largest tree & wh had evidently been torn away from one of the topmost branches in a gale & this has no prickles or very exhemeral small ones — but the others from the tree growing almost in salt water have prickles unmistakeably. But there is no difference whatever in these two trees. Their leaves were also as you say slender. But you must remember that the other specimens (the prickly ones) were from the lower branches of trees wh themselves were shaded & protected. This always makes a finer-leafed & generally I think longer leafs. Exposure — taking freely the sun-shine & the blows make a wonderful difference in the pine as indeed in all trees! Leaves sometimes in 3 you say, — that is not I suspect very unusual with flabra or indeed any 2-leaved pine & is perhaps only an indication of vigor & good soil. The distinguishing & diagnostic mark of flabra is his smooth skin. One has only to see P. mitis & P. flabra side by side as I frequently have (especially the younger trees) to satisfy himself that they are utterly dissimilar. Our mitis here may be as you say a "connecting link" between the ordinary flab. & mit but I have never seen what you may

term the true P. mitis. I shall request Mr R— to send me both that & his P. Serotina wh you say approaches P. Rigida so closely. Either with this mail or the next I shall send a package of pines with growth up to the present, tho' it seems to me a delay or stay 10 dys or 2 weeks wd be an advantage & in this I will send a P. Serotina with male amts diev upon the tree. You desire to know if the amts of this elongate as in P. Rigida — I do not see any elongation of the amt pustules, but as I have never seen P. Rigida I am not sure that I apprehend yr meaning. ~~[illegible]~~ ~~[illegible]~~ I generally find the amts maturing a "cylindrical spike", wh is very remarkable, — they ~~amts seem to me~~ being not as much clustered together as in P. a. P. E— & under most of the other pines. This so far as I have examined, — tho' I believe it is more patent on the younger trees than the older, on the latter they are often much shorter & very small as in other trees. Most probably due to the greater vigor of young & growing trees. Is it that the P. Rigida & P. Serotina are supposed to be the same tree? — I shd like to see P. R— very much — When does P. R open its cones — or does it drop them? Every fall after taking the usual 18 mos to mature? — or is there a long delay as in the case of the P. Serotina & some here? What you say about the cones of P. Pinea of Italy makes me prick up my ears for I haven't yet satisfied myself as to when the P. Serotina opens. Certainly it is tho' I've examined hundreds of trees the past yr & sub to the president yet have I

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failed to find a single cone of the spring of '69 open yet!! Tho' I've looked up at the trees in diff. localities until I feared that my neck might commence to elongate like the original giraffe (several Cons back) of Mr Darwin, that being pushed for grafs got to stripping the topmost branches of shrubs — & I sincerely fear (the habit being engendered) my descendants may yet pay the penalty for my upward-pine-gazing! Tho I have lately seen a good many cones expanded on a lower limb, wh. had been licked by the flames of the burning wood — but none open above them, nor on any trees untouched by fire! I also have seen them open shortly after a tree had been thrown down, & was once thus deceived, writing Mr R — that evidently I had seen a few expanded but I am now satisfied that the expansion was due either to the heat of the burning wood or from the death of the tree. Notwithstg these cones I am now watching may expand this fall — if so 30 months, — & similar to the Italian tree. The cones herewith thus delaying seem already full grown. You remember this is referred to by Ell. & Mich. No matter how much alike be P. R. & P. S. wd not this make a vast difference? Yr letter was addressed here & not P. Beaufort, & yr acknowledgement of (as you say) my letter of 5 Ap. has not come to hand. What does Revd Mr Curtis say about his NC tree? A Tæda or P. Ell? as for Mr Ruffin's trees I suppose the bot. strip is too mean to learn anything from it. I used in old days to take Ruffin's mag — & I think I do remember such an article. "Do I know real-old Loblolly (Tæda) wh. is not very second growth!" Such trees are very rare about me & I believe them to be that rather smooth bark Loblolly

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of wh I wrote for some time since.
Back now like P. aus. & very slightly primed
— then I suspect are the only orig Lottollys of
the "Forest Primeval" about here. Of the
timber of such I know nothing. I dare say
good — but even of the old field Lottollys
great use was made in building fences so
tho' it wd not last very long. Indeed on
the score of the I. issue the planters cd get
nothing else for building purposes & glad end
to get that. I have observed that all
that you say as to the elongation of the
branches wh low stunted plants (even
lower branches) is quite true. Again now
as to P. aus: — I have at last found 2
branches with the young cones of '70 & '71
together — yet only 2, tho' I've certainly
examined several hundred trees as well
as I cd. I shall send this to match
yr specimens complete, & also a continuation
of the ascending series of young P. aus's
cones in this letter! N. Scotia P. aus
is terminal, or, as you better explain it
apical — for I have failed so far to
find another besides the one in the
top — wh evidently was not so! Freak of
nature? — Excessive growth of a young
tree! I see also that it is as you say
about the lateral — cones pines having relatively
or weak branches apical cones. I am
still surprised to find so few cones of '70 of P. aus
& yet so many thousands of this spring! — indeed
I believe I sent you all I found tho' I
had an opportunity of examining very many
trees just cut. If it was due to a late
frost (wh indeed was the case) why did it
not affect the young cones of P. Elliottii (still
earlier) & I found plenty of them, — or those of
P. Serotina, Mitis — & glabra & Tæda — tho' of
course I am aware that there is a ~~certain~~ period
both beyond & below a certain point when cold will

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Rec'd May. 9th 1871 (3)

not engine & it may that P. Australis was "struck" just at that particular juncture! Evidently P. aus does not shed or must pollen at P. Ellettia. This Spring when the margins of the little pools were yellow & every place in the road sulphur-splashed - (yet seems more Ex-perfective!) the ants of P. aus were still juicy! - when the turns of the latter came I indeed saw the wafting of the yellow dust & where it had been caught on the roadside - but it does not seem to me to approach the abundance of the discharge of P. Ellettia! Thank you for the allusions you noted to your Botanical History & that also of S. Gray - in both of wh I was greatly interested. And would Pollen be wafted that distance thinks you - - most remarkable! The seeds you sent for Launs were ol. americana - wh were larger than usual - one of the most beautiful little trees we have - the others a sort of Pea like a ground nut (arachis) are sometimes cultivated in Gn. They grow precisely like the above & this thought were brought here by the negs! from Afa who only used to cul-tivate them. Mr R - gave me the lot named wh I've forgotten but says that he remembers their being cultivated by negros when a boy living in St Johns Berkeley. The cornel seed was C. Sagittalis growing in lands over-flowed by salt-water - it is ornamental but you may be too far inland! Indeed, I never knew before the Hygrometrical nature of the cones & thought I had made a wonderful discovery - never before observed by others!!! - But there is nothing new under the sun! As for Yucca I'm already troubled lest another season comes & you not get what you need - I have observed 2 or 3 fine patches of them - growing too in secluded places wh I expected to visit

at the right time. But in this "farmer clime" of ours man interferes & the nigger disposes — what was my horror & grief therefore on yr act. Especially — when a few days since I found them all cut up with the hoe & burned! I have left but one plant left already about 3 ft high (flower stalks) wh I may get. I have endeavored to interest others in this matter, but so far with not much success. Be assured I shall do my best for I wish to satisfy myself also as to one or two questions. By the ye in the last No (May) of Rural Carolinian pub. in Chester there is a comn from a Mr C. L. Hunter of Lincoln Co. (also Omen!) who states he has discovd there the Y. recurvifolia of Ell ~~[illegible]~~ * — no bot characters given — speaks of its being put up in bundles & planted for hog killing &c &c — He refers especially to its being seen only on s-isds &c & of a but that there it was! Now my dear Sir there is a chance of your seeing the thing wh I have not been able to get hold of near its old habitat — that in the old North State! I inclose also flower of the Opuntia Rafinesquii (?) the specimen of wh was sent in box. Stig. 6. — been in flower for 2 weeks. Fruit pink — or a dull red, for who can agree about colours! Oaks? yes! several. Especially of course the cover & story of the whole family — the Q. Virens of our s-isds & sea-board! I've just found one wh I don't by well make out, growing on a terrible radiemater ridge of sandy ~~[illegible]~~ & barren soil surrounded by Androm. Ferrug & Q & P. aus. Will prob. be call yr attention to it another time. Not Q. V — or a variety. Also you will find inclosed 2 or 3 Euphorbias — Euphorbia Corollata? — or varieties of the same? The first runs into

* Nuttall, who states that it grew in "sandy pastures" N.C.

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4 branches or forks with a central in-
-volucre (?) The white appendages of wh are
invariably larger than the rest & always with
a very short peduncle! Now please examine
the one with ob-cordate & revolute leaves,
slightly sprinkled with hairs — younger-purple
splotches — involucre almost hidden by the
leaves — peduncles are very short. Stems & other
smooth & purplish. Don't see anything like
it & or the allusion to angular cordate leaf
in the works &. Grows among the former
plants — seems very diff., but may be
but a variety. Read yr last letter with
the enclosed for box & c — am obliged.

Will in another letter tell you what
I have to say as to dissecting of leaves
of P. ans. As for the Yucca & its
parts — last winter I visited a little
Gulf near here in My River, on the
little bluff & beach of wh the stems of
Y. Draac. are heaped in mass & waves
in inextricable confusion & forming
such a beach-mass of twisting spears
that even yr Germans might hesitate
to storm, & on some of the twists of
these lashed by the tides & dried by the
sun I did observe a certain barky
like condition — but nothing more I im-
-agine than the old intrications & kind
to the action of sun & water as above
stated. But another time shall I go
there will examine more closely.

Yes! poor Paris, poor man! now
of in the red story "the red-foot Fairy
of the Seine, piling her barricades
with dead!!!" I have been
very early interrupted & hesitate

whether I ought to send you this poor medley — but I beg you to pardon it — I haven't the heart or the time to go over it — don't know whether I can make it out — 'So please pardon the unauthorised haste with which we

Very sincerely
yours
C. H. Peirce

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pts of Ap 20 & 23 have been recd & answered with many thanks both of letter & package of Pines &c. Bluffton Mo

23 May '71
Young pines Encld are those of P. Glabra

To —

Recd May 30
Ans Jun 13

Mr W G Engelmann
My dear Sir

Would I surprise you much were I to tell you that I believe I'm "lost on the trail" of certainly two — perhaps three — distinctly marked "varieties" (species?) of P. flammetum? & maybe too fast perhaps to "give tongue", as I have not yet examined the flowers yet but — still, I've thought it best to keep you informed as I go along & if it ends in smoke then we have nothing of — to all! you will remember that in the first letter I had the pleasure of writing you I remarked that I knew of but one Y. fil; here, altho' the leaves certainly differ — cent certain differences both of length, colour, texture &c &c wh seemed to me to be due to soil &c &c but I'm now disposed to change my mind on these points since I've been watching them shooting up — budding & flowering

with Sarg. P. Glabra & friends — new species

during the last month! I write you that my patch of yucca (wh being in a secluded place I thought very secure) had been destroyed by negroes — since then however I've been fortunate enough to find others wh I am now watching — but wh at any moment may share the same fate! These consist of 1st a yucca fil. (No 1) at Hunting Island plantn, a rough drawing & description of wh I send you — still in bloom, about 10 days or two weeks a-head of others (very diff.) in the same field, about a mile off — but growing in precisely the same soil & exposed to the same influences of "wind & weather". The last — wh we will designate as No 2 have run up with the stout stem of last's Bean-stalk of Jonathan's ground, & are now (the flower stalks) 8 or 9 ft high, — (and indeed about 10 ft if I'm not mistaken) & purple from top to bottom, & by that I mean a deep claret colour — the leaves, buds & whole periantha being of the same colour. Panicle as far as I can judge, will be compound of few racemes, & few flowers compared with No. 1, & commencing high up

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Rec'd May 30th 1871 from Dr Wm Hall, Hunting

No 1

Hunting Gold Plantn May River Mar 29 1871

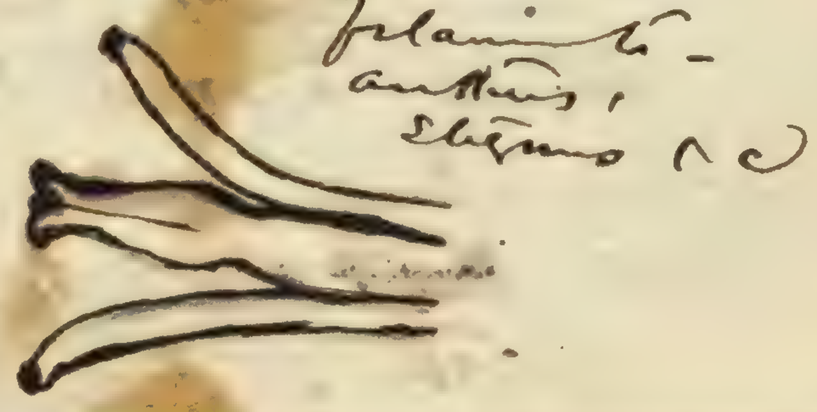
Yucca — filamentosa.

Root small so that the plant is easily moved about & shakeen. Stem from 4 to 5 inches, stout & very leafy; leaves rather rigid, but smooth & of a pale green, especially the older — wh have but few filaments & are broad — lanceolate & somewhat plaited. The young leaves narrower — linear — lanceolate, with fine thread — like filaments. About 24 inches long & near 1½ broad (older) not ~~very~~ acute, — somewhat abruptly pointed (though not approaching in this respect the "Stiles Pl." plant) spine short — rather blunt; — never recurved or flexible, but retain their rigidity when spreading fan-like from the stem.

Flower-stalk from 5 to 8 feet ~~high~~, very soft & smooth from top to bottom, & of a pale ~~yellow~~ green colour. (somewhat yellowish cast — like that of Glottidium ~~Sativum~~ Floridanum DC.) Panicle pyramidal, the racemes commencing about lower third & rather lowdown on the scape, & spreading wide with many flowers & buds (12 to 18 on each).

Leaves of Perianth white with a tinge of green, interior much wider than outer — ovate — lanceolate, former 1½ inch in length — latter 1⅝. Pedicel ½ inch long with 2 bracts at its base — the outer half as long as pedicel — inner still smaller. Filaments white — recurved — ~~anthers small~~, ~~yellow~~ ~~oval (?)~~ about half as long as corolla, — pubescent; anthers small, yellow — oval (?) stigmas 3 — recurved — sessile — 2-cleft.

Flower-stalk
Springs up pale-green — almost white — like a tender shoot of asparagus & not clothed with strong & acute leaves as in another variety of Y. f.



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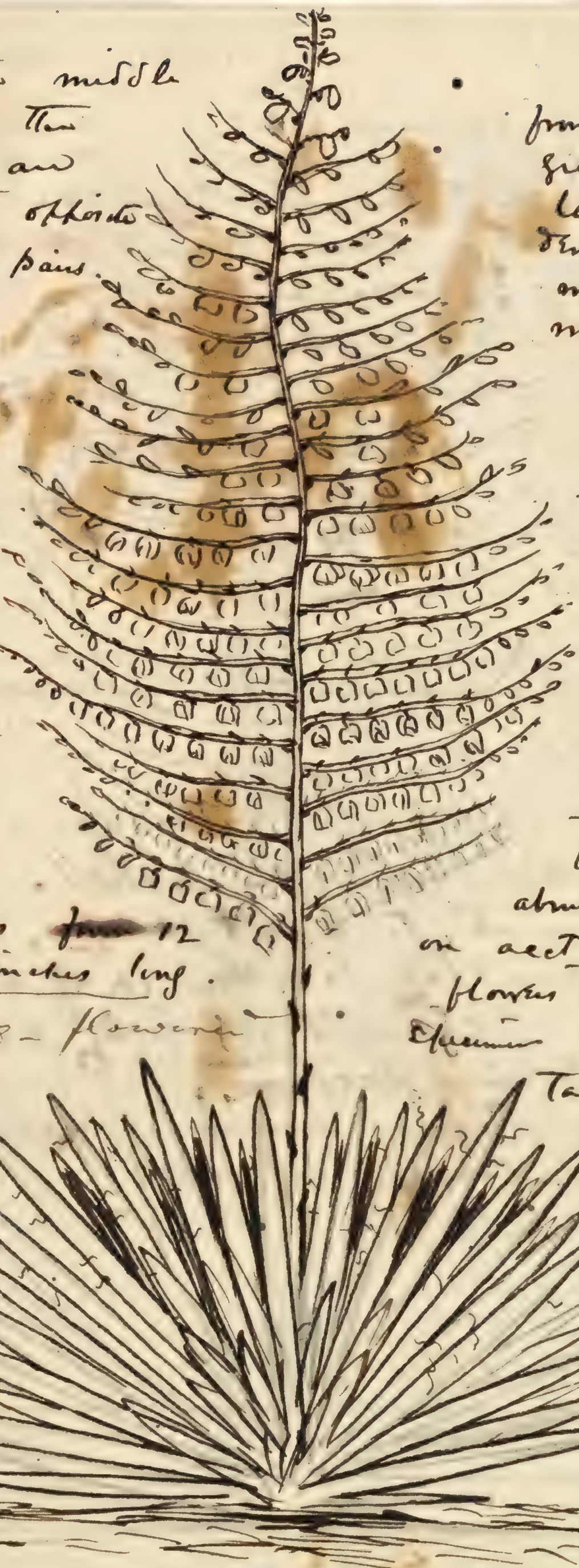
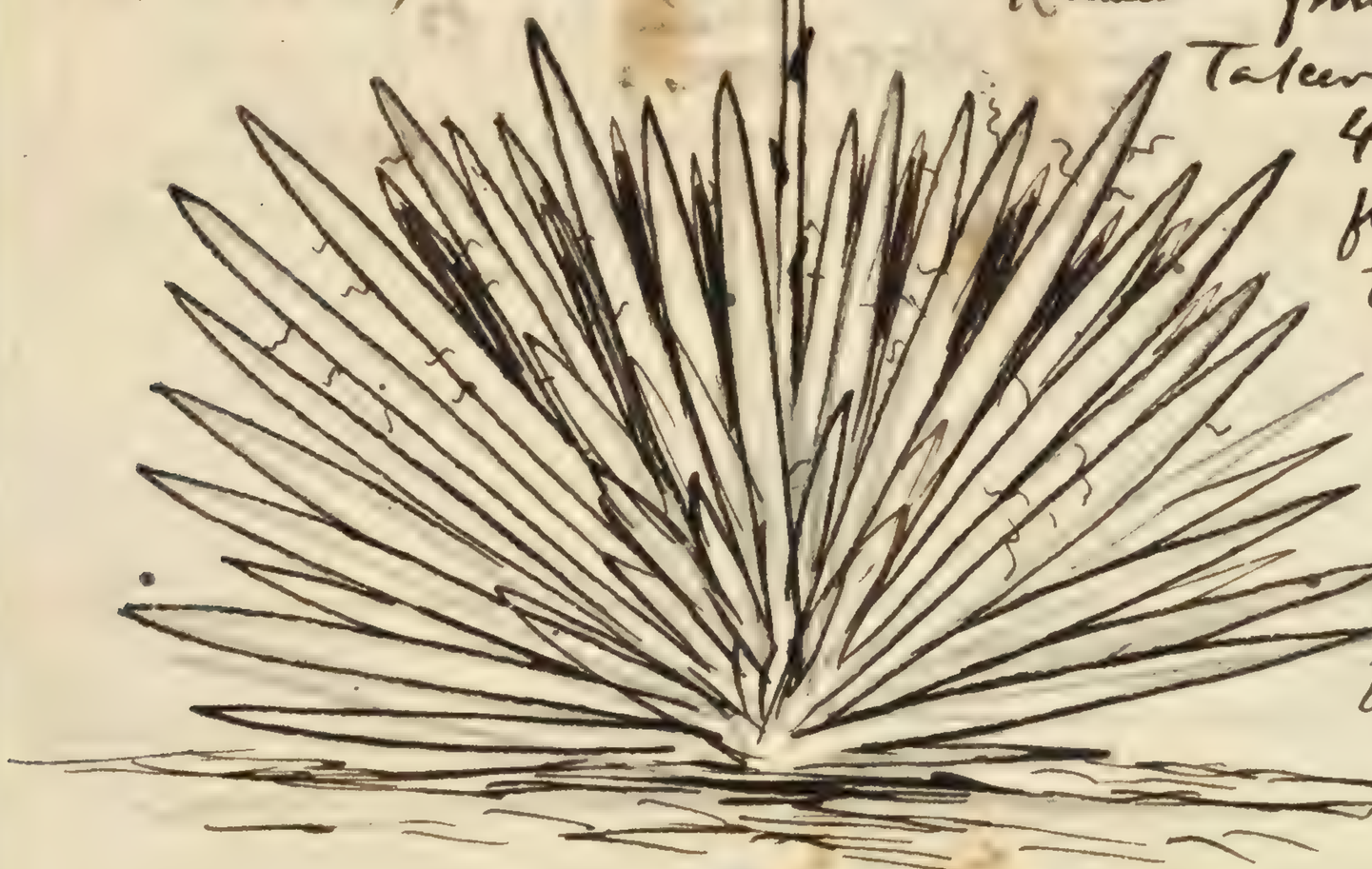
On the middle racemes the flowers are frequently opposite as if in pairs.



This plant differs from others, first in the greater number of its leaves which are so densely imbricate as to make a seeming a much stouter stem than with others of Y. f; & second, in the racemes commencing low-down on the flower-stalk making a Pyramidal Panicle (somewhat). Third, — in the flower-stalks being very soft & smooth & of a pale-green & its leaves being very short & abruptly pointed. Also on acct of its many flowers & racemes. The specimen from wh this was taken had a stem of 4 – 5 inches, — flower-stalk 7 1/2 to 8 ft. 40 Racemes or branches, not counting the buds & flowers at the summit & 12 to 18 flowers & buds on each raceme.

racemes from 12 to 15 inches long.

12 – 18 – flowers



In full flower on the 20th of May '71.

— the above represents the racemes too much crowded together, — the panicle not being so dense & compact — but that is the tendency of its growth.

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Gr Mellichamp. May 23. 1871

Now still another specimen same field is No 3 wh for aught I know is only the young & undeveloped fl. stalk of No 2, but the stem leaves are not so long, nor so very smooth but rough, — shape very much the same — acute with sharp spine. Flower stalk now 4 ft high & very robust & clothed with long, sharp pointed leaves — completely encircling with its sharp bracts the smaller flower buds, — as thus. This 2 or 3 wks behind & shall watch only No 2 is green only a No 2 is fl. buds mentioned second compared a few whole matter. — its flowering later & with int. Possibly — but the fl stalks a bronze colour, with faint purple: whereas dark purple from To base. I did not that racemes in No 2 to be very far-apart with No 1. But weather will settle the off these leaves you have ~~specimen of them~~ specimens. I wish to send you complete ones but I do not wish to trust them to mail — especially the well keeped racemes rd. When No 2 matures will send complete description as now I send No 1, & so on with all of them. No indication whatever as yet of the few Y. flr. blooming this Yr — here my G. Gr Kimmer will be another lucky out for you as well as for the absolutely perfect Yf.

Very [illegible]

on the ~~stem~~ flower-stalk. In this respect very diff. from No 1. Leaves of flower-stalk (wh. for the ye is not so smooth & sleek as No 1) are longer & more acute, & the stem leaves ~~few~~ & lowest intricate & very long & flexible & smooth & gracefully recurved — precisely like the specimen sent from Seaton's nurseries. Old leaves with no ~~fila~~ threads — seem to have been stalkless — younger leaves filamentous. Now I am pretty well satisfied that this is very diff. from No 1 as you will see when you receive the drawings of that. An examination of the flowers in 10 days will decide, — perhaps more in Examining a small bud I thought I did detect that the anthers were sagittate wh is certainly peculiar. Not so in No 1. But that condition hides at seems (ell) in Yc specimen.

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Recd. Jan 9 1847.

P.S. Please overhaul, if you still have them, the various Capsules of Y. f. wh. I sent. You will remember one from Hunting Ed. rather smaller, (?) thinner, & of a paler colour than others & also compressed somewhat in outline — . This I believe to be Y. f. No 1, but the paler of Ys at that spot as I took you were Belinger & myrons. Another — starter & almost black from Newbiggin (Leadworks) that unless I am greatly mistaken is Y. f. No 2. No 3 is mid-way between them with I suspect. (Illegible).

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Yucca filamentosa

1 June '71. (No 2) Hunting Ck ^ Buck Sd.
Root small, — stem stoutish (3 or 4 inches) — few-leaved. Leaves deep green ^ very smooth on both sides, — the younger broad lanceolate, with rather few fibres — wh are seeming short ^ coarse; — the older with very few or none, — lanceolate, — very long (from 2 to 3 feet — 4 inches) ^ gracefully recurved — not at all rigid — but very flexible, & gradually tapering to to a point, — the spine (?) being strong, ^ rigid & sharp. Flower stalk from 8 to 10 feet high, of a deep purple throughout, — the lower third being partially clothed by the longish ^ strong spined leaves. Racemes few for so tall & robust a plant, & commencing not low down as in No 1, — but at the base of the upper third of the stalk, — branch therefore of not the height — not so pyramidal as in No 1, — rather conical. Leaves of the perianth white & tinged with purple, interior ^ outer leaves of almost the same length (2 inches long — 1 ⅛ wide.) former, ovate-lanceolate, — latter more narrow, — somewhat clawed (?). Flowers single — but most generally by pairs ^ springing from & surrounded by the same bract or sheath, — the outer leaf or bract enclosing the two smaller — wh embrace the *pedicel (?) Bract half as long as pedicel — inner smaller.

Peduncle?

* Pedicel, ⅞ of an inch, — stout & thick, — greenish purple. Stamens same as in No 1 — filaments being white & re-curved, — anthers small, & at the expansion of the flower small ^ oval (?) — but when in bud sagittate, [I observed the same in No 1] filaments ⅞ of an inch long, stigmas 3-cleft (?) & cleft each into a deep serration (?) ^ very slightly recurved — or expanding. Flower stalk in this specimen bent at the upper third where the racemes commence, ^ I suspect this condition generally holds with all of this "variety" (?)! The distinctive signs therefore as compared with No 1, are, — the long smooth recurved ^ flexible leaves with strong ^ sharp spines, — the comparatively few leaves — the deep purple stalk partially clothed with leaves, — the larger flowers (2 inches) of a purplish tinge, — the very much longer style stigmas &c than the stamens; the deep serration of the stigma, (not near so distinct in No 1) & the commencement of the racemes high up on the flower stalk. In the one from wh this description was taken there were only 16 racemes, & 14 buds above them springing from summit of fl. stalk & from 12 to 18 flowers on each raceme. But above all, the flowers in pairs on stout pedicel (?) springing from same bract.

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(No 2)
Flowers mostly by pairs springing out of the same bract or sheath — in No 1 so far as I know they are single, — though frequently they seem to be in pairs from their being immediately opposite on diff^t sides of the stem.

Hunting Island Plantation
Bay River, near Beaufort
S. Carol.
Dr J. H. Mellichamp
June 1st 1871

No 2

Yucca — filamentosa
(purple ~~stem~~)
flower-stalk)
8 1/2 feet high.

racemes are represented as commencing too low down on the scape, — they commence higher up at the base of the upper third.

No 2. Flowers of a very shiny & almost disagreeable odor — No 1. odourless, or nearly so.

In bloom now — 2 June. 1871.
J. H. Mellichamp

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Missouri Botanical Garden

Rec'd June 9th 71.

Bluffton Mo. 2 June '71

Dr Geo. Engelmann

My Dr Sir, In my last letter written a week or two days ago I told you that I believed that I was not on the trail of, if not 3, certainly 2, well marked "varieties" of Y. filamentosa, — at the same time enclosing a description, with rough drawing of Y. f. No 1, & also specimens of the flower & leaf. I called yr attention especially to the soft pale green fl. stalk with yellowish cast, like the "Glottsburn Hosannah &c" (if you've seen that!) & also the commencement of the racemes at the summit of the lower third of the fl. stalk. &c &c and I remarked that I was there watching with int. the very tall purple stalked No 2, & also ~~the~~ another, 2 weeks still behind, very robust & stout, & completely, or rather to a great extent clothed in leaves, & wh I thought it not unlikely was still another, — presenting many differences. This last we will designate as No 3, & is still too immature for examination, but I already prognosticate a rather short tho' robust fl. stk, with very few racemes, commencing still higher up than in No 2, & few flowered, — also, that the upper portion of the fl. stalk will be full of small rumpened protuberances, — call it varicolous for the time being! You will find all I have to say of Y. f. No 2 on the other page. A sad jumble I see, but I've tried to be exact & accurate, & you can disentangle! I believe No 2 is the plant from Sealsville, New River, — almost sure of it from the leaves. I have not been able to go there, & in vain have I solicited the friend who sent them, to let me have other specimens. Such you see is the indifference of the Lady (or shall I say Demoiselle?) to any pursuit wh does not yield bread or money! But for Jenny there's Grace enough for us all now in this regard! And now let me tell you my Dr Sir, that you came truly near receiving with my last letter your last "invoice" of yuccas from this work & corner of the Globe! It was only a day or two since in the cool of the afternoon I bethought me of taking a stroll in the fields about "Hunting Ice", for the purpose of examining the "purple stalked yucca", & making a rough drawing of the same &c &c. I had succeeded in doing so, & commenced myself of the distinction between No 1 & No 2; so before taking my leave of the ground — concluded to extend my walk to May River, (a few yards from me)

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—thinking I might get a glimpse of ~~[illegible]~~ a glorious wh might perhaps be blooming, & wh I might see for a mile, — glimmering white & ghostlike on one of the little isls among the stream, wh was brimming high with the highest tides of the year. I was standing on over the old cotton beds, — sprinkled here & there with brown-grass, — when, ("horresco referens"!) I almost stepped upon the most horrible reptile of our sea-board, — a rattlesnake, (Crotalus adamanteus)! The first indication of his whereabouts wh I had, — was a tremendous flirt, but whether he struck at me or not I am unable to say, — possibly his snakeship was as badly scared as myself, but a step or two more & I wd have been on him, as he was immediately in my path. And now the rage & fury of the monster was beautifully exhibited, & all his "hell-bells — a-ringing" as they say, — the air resonant with the everlasting rattle, for they seemed to right & left, — in front & behind! He had immediately thrown himself in a coil, — his head flattened, — his neck arched, — javelin like, & his eyes head of fire — ! Stunned as I was by my narrow escape (for I was almost upon him!) I could not but admire the ~~[illegible]~~ beauty of the terrible reptile, & remember the excellent description of our old Prof Dr Holbrook of Charlston, — "a more disgusting & terrific animal than this cannot be imagined; its dusky colour, bloated body, & sinister eyes of sparkling grey & yellow, with the projecting orbital plates, combine to form an expression of sullen ferocity unsurpassed in the brute creation". It was not long before I killed the "beast" — cutting off his rattles, & hanging him up on a cedar tree as a warning to his tribe! He measured between 5½ & 6 ft in length but it was his girth — his "bloated body", with its dusky bands wh gave such an appearance of size & deadly power! It was almost sun-down, & I 2 or 3 miles from home, & alone, — I fancy my condition of thoughtfulness had I been struck, for I have seldom known a recovery (even after the most prompt treatment) from the bite of this peculiar species of Crotalus. I enclose you his rattles, only 11, counting the button, — I have seen there 18 of I mistake not, & 2 yrs ago I killed one on a ridge near here from 6 to 7 ft. But I write to you to give information as to our woods, &c! I am off on Herpetology; — my excuse is that I was badly scared, & the horror has not yet worn away — seeming, I was in great peril & I very heartily thank God for my escape. Your last of 22. my dear, what I have to say of pines I'll give in another letter, — not close keeping in mail — the time condition now of P. Ell. — the ~~[illegible]~~ recurving of cones or sent. I had already noticed the curved growth of axes of P. Aus. & now have an indicative spec. in leaf as sk. of wh I send — measurements accurate. Yours [illegible]

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The bloom of No 1 long since over — & not a single forming Blossom or capsule on the only 3 stalks wh. bloomed!

15 June '71

Dr. Geo: Engelmann
Rec.d June 24 my b.d.
Ans Aug 13

{ P. Card of 22 May
I wd in due time
& will answer queries.

Dear sir, I hope you can decipher the scribble written hastily — please pardon

In my two last letters I sent specimens of what seemed to me well marked "varieties" of Y. filamentosa wh. I designated as Y. f. No 1. & Y. f. No 2, the former blooming about 20 May, — the latter — 1 June & later. I called yr. attention to the tall, pale green flower stalk (of a yel-low-cast) of No 1, & especially to its large pyramidal panicle — the racemes of wh. commence low down on the stalk much lower than with any others wh. I've examined. Flowers & leaves sent, & described. In No 2 — blooming 1 June (& still in bloom, tho' fast waning) I remarked upon the invariable purple stalk, & its height, 7–8 & 10 feet — partially clothed with leaves & its panicle commencing higher up on the stalk than No 1 & making a more conical panicle than racemes

were stout & more robust than in No. 1. Leaves very long — these & flowers also sent & described. No. 3 wh. I remarked to you was still behind — hand is just commencing. To blow & having compared it with No. 2 but a few feet a-part in the same field. I have not little doubt that this also is perfectly distinct & bearing an intermediate place between No. 1 & No. 2! The leaves & especially the dried stems & stalks of all of these I have often examined during the winter & when they came to start with the spring I was not unprepared to meet the various distinctions of form, colour &c wh. seem now to set them. As for No. 4 ~~the~~ wh. I had designated your Y. fil.a (Vera) of the Barles I have been very anxious to see how that behaves, but the few wh. were left in the "Trimblestone" field after the larger were dug up of mornings (as I could say) — have not bloomed. It is not unlikely however that my J. J.s friends have purged a number of this for me & my Father in the nurserymen families to do so. If he comes again, it will be his night — tho' he has first sent me leaves collected by a neighbouring doctor — two of wh. I enclose. No signs of flowers yet — I have sown to hurry up a little wh. ~~[illegible]~~ in my pan where I may find it & also set the bulbs &c of Y. D.

Very long & rude.

G. F. Merrin

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Rec^d in letter of June 15th & June 24th

15 June. 1871

Yucca filamentosa (No. 3)

Stem low – 1 to 2 (?) inches (18 inches to 2 feet ht) not stout, fair leaved. Leaves paler green than No. 2 – same colour as No. 1 – rough on upper surface – linear lanceolate (inner sometimes much broader) erect & partially incurved – gradually tapering to a point – spine sharp, but not strong as in No. 2, easily bent when pressed upon – Same conditions holding with leaves & fl. stalks, spine being weak & tender, (not so in No. 2) Fl. bearing stalks from 4 to 5 & 6 feet – colour at first a little purplish gradually assuming a greenish bronze – shoots up at first with great vigor & robustness & partially clothed with leaves wh. an almost plaster around it. Panicle still higher up than in No. 2, thus racemes & wh. are somewhat compressed against the fl. stk – sub-erect (?) – flowers therefore seem still more crowded together. Leaves of Perianth large, ~~large~~ & more expanded than No. 2, white with a greenish tinge like No. 1. – outer leaves much more narrow than in either No. 1 or 2 – simple & of fains. Racemes short & generally fewer than with the others. Pedicel or pedunculus with ger. ofs. 1/4 – stout, & thick, short – 3/8 to 4/8 inch. In all of these plants examined (some 15 particular) & growing in same beds with No. 2 I observe one special peculiarity with shrivels one when examining the old dried fl. stalks of 1871, as soon as the plant commences to bud ~~& those~~ the upper ~~portion~~ particular portion becoming ~~[illegible]~~ rough channelled & corrugated – somewhat ferruginous. No difference in style – stig – anthers &c from No. 2 same description will hold – but as I remarked fl^s are I think more expanded & outer leaves more narrow.

MISSOURI BOTANICAL GARDEN PAPERS

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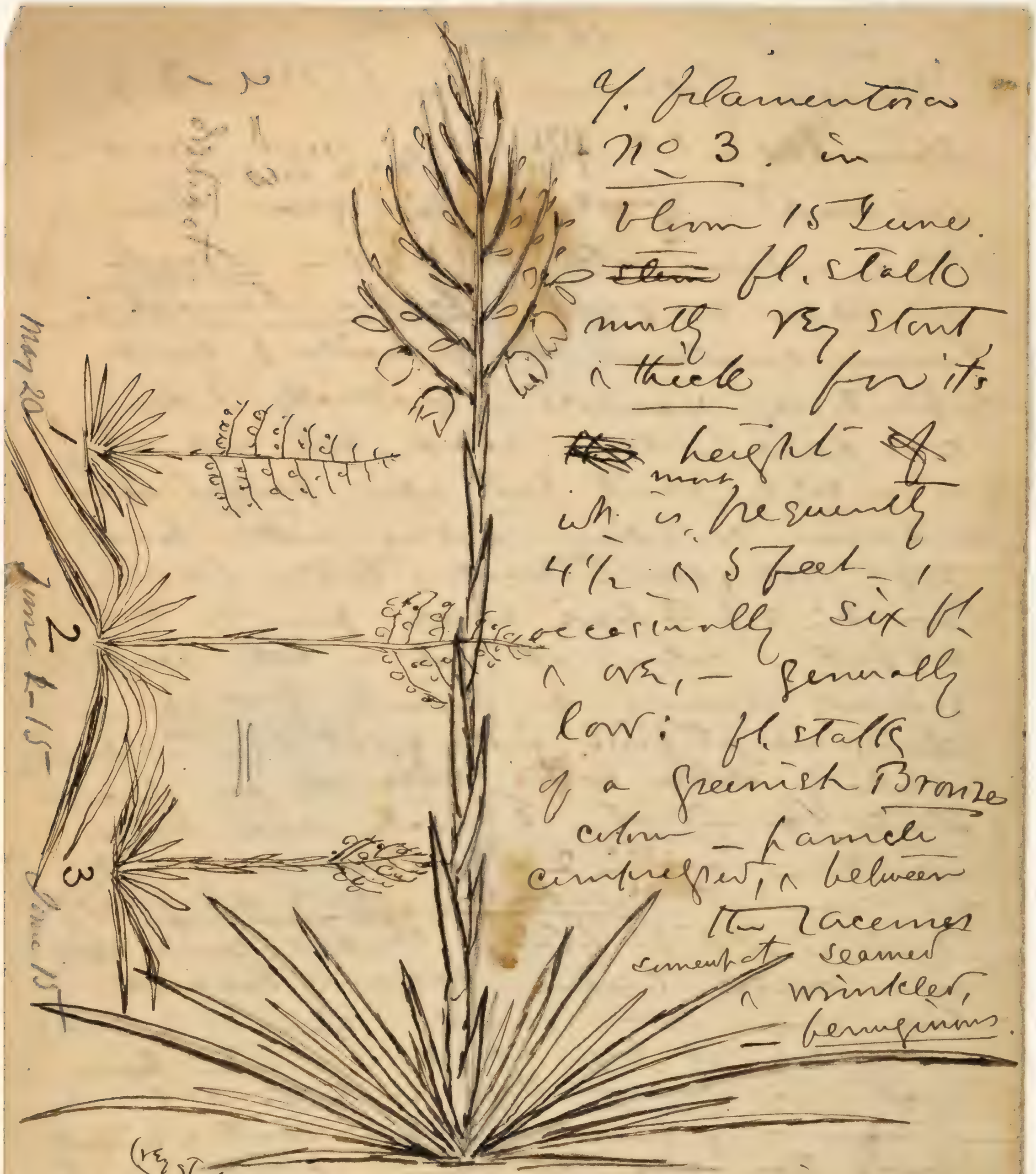

Y. filamentosa
No 3. in
bloom 15 June.
~~Stem~~ fl. stalk
much very stout
& thick for its
height ~~&~~
wh. is frequently
4½ & 5 feet,
occasionally six ft.
& over, — generally
low: fl. stalks
of a greenish Bronze
colour — & much
compressed, & between
the racemes
somewhat seamed
& wrinkled,
— herbaceous.

(very stout)
I cut a fl. stk of above some 3 weeks since, about
completely plaited with its leaves — ~~[illegible] of it~~
~~as already dry but~~ & hung it up in my house. It
is now putting out a weak & tender & pale green
panicle consisting of 3 or 4 racemes. About ⅓
of the stalk is perfectly dry — yet I expect
the buds to blow into flowers — in perhaps
ten days or two weeks. In passant I may
mention that I have not yet examined a spec. of Y.
in bloom wh I did not find completely encumbered with
a foul smelling squash bug (Coreus tristis?) This was
so with all — Nos 1, 2 & 3 — white miller moths (small)
always to be found in the flowers!

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Recd Sept 18th
Ans Aug 13

Bluffton Mo
12 Aug/71

To
Dr. Geo. Engelmann –

My dear Sir,

I send you by this mail a box containing specimens of Pinus Australis wh. leads me to think that the position of the cones is always – (or more properly) – usually lateral. I have not been able to examine with care more than about 10 different trees – obtaining some four or five specimens from each one. The result – always the same, – these were either large or very well grown trees, – but one one wh. was something of a sapling exhibited a remarkable elongation of the axis beyond the cones – of some 3½ inches! One other specimen from the same tree (about 30 feet high) was nearly as long, so far as I cd see I judged this condition to be general. On all the other trees examined (wh as above remarked were well grown) the elongation was general, varying from

an inch to mean an inch & a half or always pushing out leaves above the cones. I am much inclined to the opinion that by this time (Aug) the growth is pretty nigh over — except perhaps on the very young & vigorous trees wh. perhaps may still go on advancing somewhat, — and my reason for saying so is from an examination wh. I made yesterday of certain old & dead branchlets wh. I had taken in the Spring from a tree just cut & wh. had remained hidden in the wood. I send a specimen to you wh. I think you will find in other re-
-spects too most instructive & also a drawing of the same with my elucidations (!). You must place the broken ends to-
-gether to compare with my rough sketch & you will immediately observe what I take to be the regular elongation above the cones — one year 3/4 of an inch & another a full inch. Or am I mis-
-taken in this matter? — you will decide, I am no botanist but a raw recruit & I draw my bow sometimes only

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GRAY-ASAHNN PAPERS

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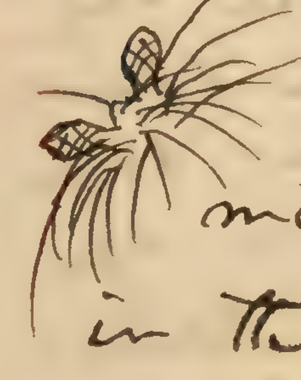
at a venture! I said "usually lateral" instead of "always", because I have observed on one or two trees branches where on the cones apparently are still abroad but I was unable to examine them closely. I was pretty well satisfied however that these little brownish cones which I saw still sticking out from the leaves — thus, —



were either dying or dead, & which never matured, apparently from want of vigor in the tree & that as they did not mature so neither was there strength enough in the branch to push out a fresh bundle of leaves beyond them, as no doubt is usually the case. By the fall however doubtless I shall be better informed, still, I think my dried branchlet sent is pretty conclusive. What say you? As for the falling of the leaves it is now a very difficult matter to find a leaf of 1869 on any well grown tree, tho' of course it is not (I believe) uncommon on all vigorous & erect young saplings. My impression is — the older the tree the less the tenacity of the leaf, & the shorter the elongation of the axis beyond the young cones.

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ASA GRAY HERBARIUM PAPERS

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A gentleman whose plantation is at "Red Bluff" near the mouth of New River & in sight of the Tybee lights (Savannah River) & to whom I showed my specimens of leaf & cone &c of the "Pinus Elliottii" tells me that the tree grows on his place & is one of considerable magnitude. It is a long distance from me, but I trust I shall get there this Summer as I shall be able to satisfy myself perhaps whether P. Elliottii & V. Heterophylla be indeed the same tree. What you tell me of the Yucca being night flowering is most remarkable — I might to say that it has been out of my power to visit it here as the plants are away off in lonely & secluded fields & my horse just being dead (alas!) I have no means of getting about just at present. Although I have examined a great many ~~plants of~~ flowers of No. 1, 2 & 3 (only 3 plants however of the first escaped the hoe) I have not been able to detect any variability in the pistils &c of each kind but all invariably differ from each other as I have attempted to show you — especially in rough drawings made when the flowers were fresh. Evidently they for the greater part of the flowers are sterile (judging from the few wh matured fruit) but I cannot see any distinction in the flowers of any one variety — tho' they differ in a marked degree from each other. In my last letter I sent flowers & leaf of No. 3 with drawing & description wh I imagine you rec^d. As for No. 2, the spine of the leaf is always very sharp & strong & on the old leaves a few coarse filaments — more abundant on the younger leaves. This is the tallest generally of all (Pl. stalk), — purple, & rather more abundant than any others about me. I am satisfied that this is the same as the Seabrook plant from New River — have not been able to get there yet, nor has the plant been since sent me.

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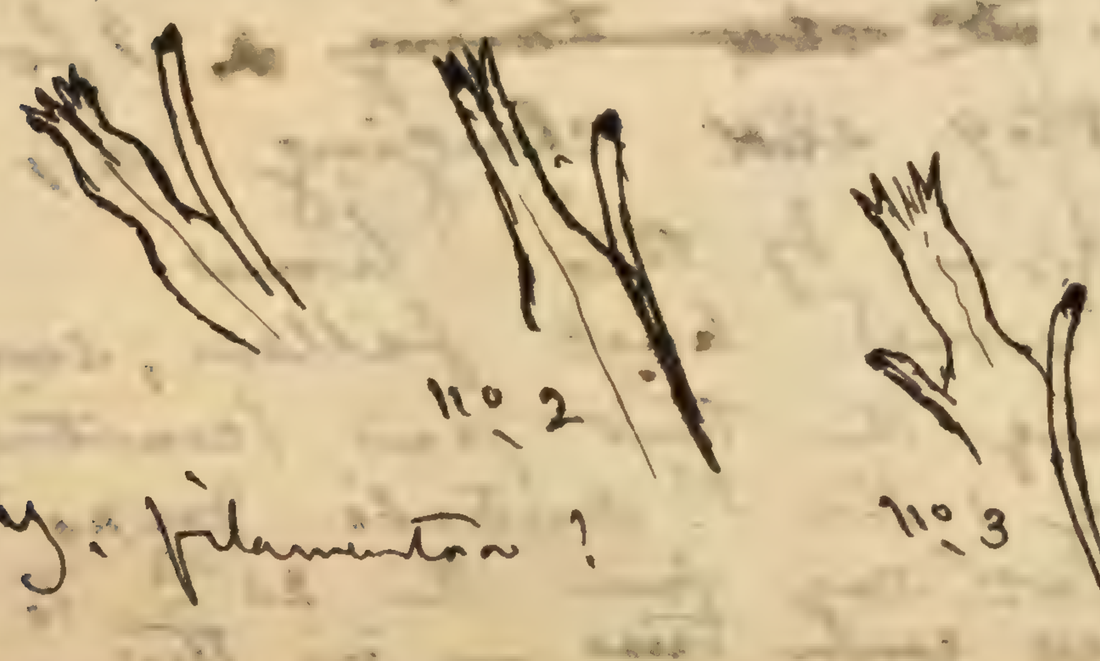
Ans. July 18th 1871 (5)

I shall the first time I examine these plants again count the leaves as you suggest. I am however pretty well satisfied that these "varieties" are well marked. I send the racemes & flowers also of the three in the package, & one of these days may be able to send still more complete specimens. As for the "Stiles Pl." plant (A. f. vera) my friends seem to have forgotten their promise! — too deep I suppose in "S. Isld." at present ~~I imagine~~ to think about such small things, but I may hear from them yet. The glorious about here have not flowered yet & will not this yr. I think. The California species seems different from all the rest — Mr. Ravenel has sent me one from Aiken wh. I conclude is the same as the "Stiles Pl." plant & also the "Fort Motte" ✗ one from Indian County sent me by my Father & the leaves wh. I enclosed to you in my last. Does not my No. 3 correspond pretty much with Mr. St. Louis plant? — pubescent I think & somewhat ferruginous?

C. Rugelius

E. J. Hill



A. f. pilosiuscula?

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GEORGE ... MARTIN
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The above is a drawing of a dried branchlet of "Pinus Australis" which in the Spring I had ~~laid~~ hidden in the wood & wh. I examined yesterday. ~~[illegible]~~ I found the leaves of 1869 still clinging as represented above, – by this time (12 July) they would have fallen, some time therefore during the third year (counting from Spring to Spring) the P. australis drops its leaves – generally I wd say from the 25th to 28th month in well grown trees – in the younger they may be retained months longer I think.

J. Muirhead
Sydney
12th July

Aug. July 18. 1881

P.S. – I enclose also sproutings from pine posts wh. were cut in March & placed in position to support my garden palings. They were wonderfully green & beautiful at first – now almost dead. How they sprouted in this singularly dry soil of ours is a mystery. I believe they are P. Sertina – but not sure – my man Horace Greeley ~~[illegible]~~ (clamor it remarkable name!!) a half white negro, told me that he cut them down in the low ground. You will find 4 & perhaps 5 leaves in a sheath. I send them as they may be of int.

Also seeds of the Cactus wh. I told you grew only in Beaufort – the fruit of wh. is large & edible. An old friend of mine a Dr. Gerrard brought them yrs. ago from B. & planted them at his "Point Place" on the Okatee. I visited them a few weeks since & found that they had been unable to stand the intense cold of last winter, – all killed – a few however were sprouting again wh. I brought away & have planted in front of my door.

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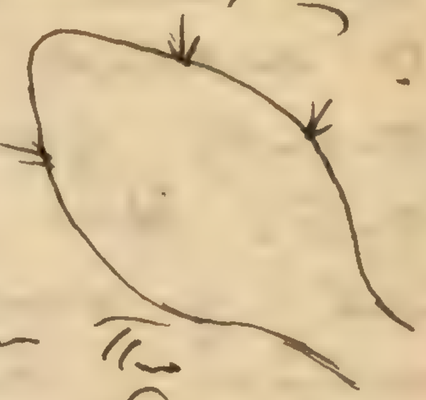
Hope to send you a specimen — said to have been brought by the Spaniards from St. Augustine Fla — leaves somewhat longer shaped & flat



Will send at another time this with our other cactus, (Rafinesquii ?) the flowers of wh. I now enclose also in the package — as well as the oaks found on the sandy ridges of the Pine Barren. (Quercus Arenaria ?) — grows not over 8 ft. high — mostly a small shrub — new to me. The weather has been for some time back the hottest we have experienced here for many years — it is something "terrible" to use the strong phrase of my neighbours — How is it with you?

Your last was of date 13. Generally glad to get a letter but I insist on yr. not keeping pace with me thro' courtesy as doubtless yr. time is always occupied.

Yours

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GEORGE ENGELMANN PAPERS

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PS. The last package (!) 8/8 contain P. Glabra with cones of '70 & '71. TO —

Rec'd Sept 2

Bluffton Mo
22. Aug. '71

Dr. Geo. Engelmann —

My dear Sir,

Yr kind letter so replete with interest for me came to hand in due time, & I shall now attempt to answer yr queries as well as I can; — but let me premise by saying that our usual September "flow" has been anticipated by two or three weeks — in a pretty sharp gale on the 18th, & also two days after, wh punished many a "pinus indicus", affording me therefore very good opportunity of examining both P. australis & Elliottii. And first as to —

"Pinus Elliottii". I have now been carefully watching this tree since last fall, & I am surprised that I shd so long have confounded it with Taeda — for it differs materially from all other species about me & is without doubt perfectly distinct; — I may say however for myself that I never did examine it, — I but looked at it, until my attention was attracted by the two leaves & the peculiar cone. If you will excuse my continued peripatetics I will now

(2)

now repeat the "Signes distinctifs", — in its early flowering, its very abundant pollen, its invariable 2 & 3 leaves, & its bark, wh comes off in long flakes & scales, (upon wh one might write a very repeatable note!). Add to wh the early recurving of the young cones in the spring, so that by this time (& indeed long since) they are close upon the stem. [P. australis, P. Taeda & P. Serotina have their young cones still erect, or at any rate partially so, — certainly no recurving at all, — the same I suspect holds for P. glabra & P. Mitis, but can't say accurately as I have not examined them for 2 or 3 months.] Next, — the peculiar "glossy brown" cone (of various shapes & sizes however) & its early & abundant dropping. A large tree opposite in a swampy "fall" near me was thrown down on the 18th immediately across the road, & having been cut [redacted], a good opportunity was afforded me of counting the annual rings &c &c wh you provided me to do! About 15 feet from the base of the tree the measurement including the bark was 22 inches in diameter; the sappy portion including bark was 3 inches, — the heart wood therefore was about 18 or 19 inches. On acct of the profuse & rapid exudation of the resinous juice I was unable to count the rings with perfect

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accuracy, — especially those of the sap, — between wh in some places there was scarcely a hair's breadth, but I think my approximation is quite close enough! I find it thus, — at the same place — 18 ft from base of the tree, — 74 annual rings of the heart wood, & about 60 (perhaps 70) of sap — the tree then being about 134 years old (?) — a goodly age enough! The rings of the heart were rather far a-part & the wood very hard & coarse, & I doubt not durable, from what I've been told, — the rings of the sap fine & close as above mentioned. As regards width &c &c and appearance, you will yourself better judge from the specimens I shall send you, wh will be typical of all well grown trees wh I've seen. I have had a good bite of the bark & wood deeply cut from same tree wh perhaps you may get one of these boys — shd you desire it? I believe that more resin exudes from this tree than any other pine about me, & from what I myself have frequently witnessed & the statements of wood cutters. One of these — an experienced & reliable man assured me that there was less sap wood in this than the other trees — that I can't say, as I have no experience in such matters as to what may be much or little sap, — perhaps you can decide as to the relative proportion from the measurements above given. As to your query as to the time when it commences to make heart wood I can not say, I only know that in the younger trees of 40 feet or thereabouts the wood seems nothing & mostly sap, — almost $\frac{2}{3}$ds I shd say, but with the well-grown & old trees evidently the case

stands very differently! I did not state that (4)
in the above tree blown down the circumference
was about 6 feet some 8 or 10 feet from its
base, — that is, as near as I could reach it
measuring with a tender grape vine! —
The storm having cast down a great number of
the cones wh would have opened this fall I
have made quite a collection of them, they being
of a various size & configuration, — some of wh
shd you even see them you will probably reject
as coming from P. Elliottii, — but I know better!
The cones of young & old trees of the same species of
pine show certain differences, but with P. Elliottii
the variations seem to be greater than with
all others. And so ends! — this is all I have
to say of P. Elliottii!

Pinus Australis! I conclude that we
will regard that matter as settled as to whether
the cones be "apical", or lateral! Since
writing you I have examined many others
& I make the same report, — the younger
& more vigorous the tree the greater the elon-
-gation of the axis beyond the young cones —
amounting as you see to 3 inches or thereabouts!
In the very old trees there is of course
little or no growth, & therefore I have sometimes
in them a but very slight elongation, — almost
nil; — still, there is the evident effort & you
can generally find — at least a few leaf bundles
beyond & above the young cones. I have no doubt
of these statements made from what I see here, but
I don't know how the same pine may
behave in other regions, — I only tell you what
I see! Pinus australis then has lateral
cones (wd you say?) and not "apical" as
has been incorrectly stated! As to the leaves

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Rec'd Sept 2, 1871 (5)

I believe I remarked that those of '69 had pretty much disappeared, — but I did find them on our two last walks. Now for that "Philadelphia Nurseryman" & his statement about P. Australis taking "10 yrs to form a stem!" — I don't know that I exactly apprehend his meaning! — 10 yrs to form a stem of a few inches above the earth? — or a foot or two? — or how much? I don't know P. a — acts in his regions Hyperbrean, — but here I know that it takes not over 8 years to grow 10 feet & over in height, & 11 or 12 inches in circumference! & ~~[illegible]~~ for this fact wh I arrive at with accuracy, we are indebted to the Yankees! (Thank God! I can get this much of good out of them anyhow!!) And how? Well, in July 1863 the Enemy becoming initated at a raid on this of our men with on Hilton Head & Pinckney Isld (Pinckney Isld, — not far from here, ~~[illegible]~~ owned by Gen. Charles Cotesworth Pinckney of the Revolution, & after whom Michaux named his "Pinckneya Pubens" — not Pinkneya as I see you write it, — that's the Maryland family!) — retaliated, by sending up here a large force wh burned three fourths of all the houses of our beautiful ~~[illegible]~~ village, — my own humble little nigrania being of the number; none of these houses & lots have been re-built, & pines & oaks & brambles have taken the place of roses & violets! Before my own hearth stone a very respectable little live oak is growing, & all around, pines, — both Taeda & Elliottii & two or three of australis, — the latter being about 6 feet high. In the burnt lot of a neighbour, where the soil is more favourable, & almost on the site of the dwelling — I observe many vigorous saplings of P. australis, the highest of wh are ten feet & over; — Elliottii &c &c 15 or thereabouts. Now

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(6) of course none of these trees were growing when we left the village in 1862; it is certain therefore, or most likely, that the seed was wafted into these yards (full of ashes & just in a condition for the reception of the seed) in the fall of 1863 — the burning having occurred in July of the same year. If these pines be still younger it makes their growth still more rapid. Have I then confuted this "Philadelphia ~~lawyer~~ nurseryman"? Evidently the first 3 or 4 yrs. as I before remarked are taken up in getting a good root & solid stem; — after that I think they grow with rapidity. I desire always to be accurate in my statements & therefore I return to what I told you formerly as to the young trees of P. a — running up 4 & 6 feet without a limb. The former (4 ft.) I have frequently seen, & the latter also in the Pine-lands even 10 ft. with only a tuft of leaves on the top, but I have convinced myself that usually ~~—~~ the very weak limbs are thrust out on each side about 18 inches or two feet from the earth, but they generally disappear either thro' the vigor of the other portions of the tree, or, (in the woods) they are burnt off by the yearly barbarous fires of our pine-lands, — and thus they seem limbless. Nevertheless I have seen them from a foot fat without limbs, & clothed with leaves from top to bottom. You remark that they must look "splendid", — indeed they do, — especially after a cooling shower — or of a frosty winter's morning! Are not the cones of young pines larger than of the old? It seems to me so — Especially of P. australis & probably of P. Elliottii & indeed of all the rest.

I may mention that one of the saplings of P. australis in the burnt lot has grown 26 inches this year, — its height about 6 feet.

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Rec^d Sept 2 1871 (9) Dr J. H. Mellichamp

with the foul smelling Squash bug ("Cerius tristis"?) altho I never found them within the bells of the flowers. These last however always enclosed a good many milk-white moths, ("millers") wh. had probably taken refuge there during the night or the early morning. Is this "agency" true? Now once more as to the Yuccas! I am still as firmly convinced as ever that there are 3 distinct "varieties" of Y. filamentosa (?) growing in this neighbourhood! As regards Y. f. No 1 there can be no doubt, — No^s 2 & 3 do indeed approach each other more closely, nevertheless are too distinct "varieties"! I have examined a great many of these even 10 miles a-part & large patches of No 2 (the very long & flat-leaved one, (Scalwatée)) on Hilton Head, — (where I was several times called when they were in bloom) & still did they invariably present the same distinctions, except in one instance as regards the ringings or smoothness of a leaf only!

Yucca f. No 1. All the dry capsule bearing yuccas are found in most instances in patches or clusters of 20 or 30, ~~———~~ & of various sizes, & this is the case with No 1, of wh there are 3 distinct patches about here in 3 different fields, — one mile & 3 miles a-part. If you will pardon a seemingly excessive particularity I will distinguish these separate fields as the "Hunting Is^d", — "Nanny Creek", & "Buck-Isl^d" fields. In the "Hunting Is^d field" there were 2 ~~[illegible]~~ scapes in full flower, — one of them very robust & vigorous, & both of them exhibiting the same peculiarity of the large pyramidal panicle — the limbs of which were low down on the scape,

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as long ago drawn & described. In the "Nanny (10)
Creek field" (Singular & funny name!) there
was a still larger patch (a mile off) contain-
ing large plants with ~~stems~~ trunks or seeming
trunks of 4 & 5 inches, — These had most of
them borne flowers last year, & in the winter
I examined the tall fl. stalks with rather pa-
-pery & whitish capsules somewhat compressed
in the centre, — anticipating not a little satis-
-faction in examining in the coming summer
certain of them wh. I expected to bloom. This was
the patch wh. Mr Caesar Green amused himself
by cutting down for his patch of cotton, greatly
to my chagrin & disappointment! They have since
sprung up Phoenix like from Caesar's beds,
over-shadowing his feeble cotton plants, & exhibiting
in all respects in shape of leaf &c &c all of
the peculiarities of No 1 as in the "Hunting Isld
Isld field"! At "Buck Isld field" there is
another & the last patch, — 3 miles off, —
containing very many plants precisely similar,
with but 2 scapes or fl. stalks, one of wh.
was very early in the season eaten I believe by
a mule, — the other blooming into full
flower & presenting precisely the same characte-
-ristics as the 2 in "Hunting Isld". These
are all of No 1 wh I have seen, — they have no
trunk when old, or what I take to be such, tho'
it never seems to lift from the earth, & I
am inclined to think that they tend to approach
the "true G. filamentosa" with coarse & abruptly
pointed leaves. Cones I have examined these I
saw on Isld, — in flower, I might have
satisfied myself. The colour of the scape is as I
have repeatedly remarked pale green & of a yellowish
cast & very smooth. The wood as you will see
is more dense & compact — the fibres closer to-
-gether than in No 2 or No 3. Blooms earlier than
all the rest (15 may was my date, was it not?) bore no
fruit this year, so that I have no capsules to send.

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After fruiting, these plants all die, leaving the tall dry scape standing in the centre of the decaying leaves, — they then propagate themselves by thrusting out as you say under the surface of the earth a bud, sometimes quite deep — (even 5 or 6 inches) wh. pushing up soon goes to making leaves, & when strong enough in 1, 2 or 3 years or more, (as the case may be) bursts out into scape & flowers & then again DIES, — the same process being repeated several times judging by the appearance of the old roots wh. I've dug up. It is not unlikely that in one of these patches the plants are more or less off-shoots from the main plant wh. originally sprung from a seed but the cluster goes on enlarging by the growth also of younger plants still, wh. have sprung from the yearly falling seed. These patches are generally found in old sandy cotton fields, — the roots seemingly go down pretty deep, & altho' the plough may turn up & cut many & the hoe crop them down yet it seems no easy matter to destroy them, as end of a root will always be left to push out

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At any rate I feel pretty well assured that the "Stiles Point" (Ga. 1d) Yucca-filamentosa Vera (?) does not behave in that way, but by prolongations of the root with buds precisely as in 1, 2, & 3. Yet I have not examined them, but shall be vastly astonished if I find a leaf bud among the upperment leaves! I told you that I found a little patch of "Y. f. Vera" at "Trimblestone plantn", wh. the negroes had dug up for soap, young plants however were left, & if fortune & Chance favour me I shall see whether they say buds above, or buds below! Query! Do not all the Yuccas have with stems & pretty bright like Dracenas & gloriosa, as well as the dry capsular ones make new plants from under ground? Certainly it seems to be so with Y. gloriosa; you find a heavy main trunk & 3 or 4 younger sprouts springing up near, evidently as in 1, 2 & 3 wh. I examined. Probably the same with Dracenas, but can't say. These — forms are generally branched, may not this bud of yrs in the axil of the leaf be simply an effort of that kind in a vigorous Y. f. Vera.?

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Rec^d Sept 2 1871 (13) * also very smooth!

Yucca-fil.^a (?) No 2. Of this I have examined a great many plants in bloom; it is more common than either No 1 or No 2 — Examined it on Hilton Hd, — on Hunting Isl^d & Buck Isl^d, — 10 miles a-part. Characteristics. The very long & perfectly flat, green leaf* with stiff spine. not much of a trunk, if any, — scape usually very tall (I have one 10 ft) & invariably purple. Leaves few — generally 50, — younger only 25 or 30. [Leaves of No 1, generally (I mean always. The worst & flowering plants) 100 leaves, — the same generally of No 3. In this however I am not disposed to lay stress as I see some exceptions & variations from age of the plants &c I presume] but almost always you will find only 50 leaves on No 2. This is the same as the Seabrook plant from NewRiver, — no difference! —

Yucca-fil.^a No 3! (about 100 leaves (see above) The rough & shorter leaf, the seamed & wrinkled scape, — especially in the panicle, with occasional prickles (?), — the coarse but sparse pubescence of branches. Panicle generally shorter & more compact than others. Colour of fl. stk will hardly go for anything, but this also is rather bronze green, & these peculiarities of them all hold everywhere that I have seen them, & I find no difficulty in "spotting" them at once! But here is the proof of the difference between No 2 & No 3! There is a bluff at Hunting Isl^d wh^h we will call "Sageretia bluff," (as the S. Michauxii grows there) where during the winter I spied 2 large patches of Nos 2 & 3 growing only a few feet a-part, in, & among broom-grass; — the dry scapes & capsules were still standing in each patch, & both of them presenting their distinctions in the ragged peeling of the skin of No 3, & also its corrugations & seams. In the early spring the field was fired, — the dried broom-grass blazed & burnt the plants up, all of them, as the charred scapes still attest! Now upon a visit there

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lately I find that both patches have rejuvenated in luxuriant green leaves, many of the old scapes still standing up, or tottering, — but how unmistakeable the differences of leaf between the two! The entire patch of No 2 — (some 20 or more plants) have already their long & smooth & gracefully recurving leaves, — only 25 in no as yet, — while a few feet off in No 3 the leaves are not more than half the size, & of a diff^t colour indeed, & full of threads curling in every direction. In No 2 I think they are coarser & sparser. Now these are all both of Nos 2 & 3 old plants or roots, — entirely there is no difference in age, yet the difference of leaf both as to length, & shape, & colour, are at this period (august) unmistakeable. On some plants here of No 3 I counted 250 leaves, already & in one plant I think 100! I called the attention of a friend who was walking with me to the difference in the two patches & he did not fail to recognise the distinctions at a glance. But after all, of what avail are all these slight (?) distinctions of length, & breadth, of roughness, or smoothness, or colour, — if, a true tangible character can not be caught? And yet I am certain of the variations. ———

Y. Draconis. Not having any of these very near me I was not able to watch them as soon after flowering as I did wish, but I am pretty certain that the fruit bends downward early from weight, — & I think the specimens I'll send you will prove it, — they are from an inch to 2 inches, & the younger they are the less disposition to re-curve as you will see. The anthers of all these species I have seen are sagittate when in the bud, & I see no variations whatever in the flowers of any one variety.

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I have seen as yet no Y. gloriosa in bloom this summer, — the bed about me will not bloom, so that you will have to wait still another year.

With me here Y. Draconis blooms always in June — last of May too I imagine. Y. filamentosa (?) in May & June. Y. gloriosa — don't know, but have little doubt it blooms with Draconis. I don't think Mr Elliott was right, — yet this was "his country". I think Chapman right!

The first chance I get I shall make a day of it at a little island (the Queen of La belle Riviere (May)) & possibly may get fruit a blower of Y. gloriosa — at anyrate I can examine that. Large of intertwisted stems of Draconis that have fallen & are falling into the water, & may find something like a oak bark piece, & later still, when "the melancholy days" have come, I hope to take a beer-days on Hilton Head beach — a-fishing for Bags in the surf, & if so, (who knows?) I may get a strike for Y. Recurvifolia! Did you ever write Dr Hunter the N.C. man, & if so, what says he?

I send you a good specimen of the little oak from the sand ridge with acorns, — 2. Arenaria? Myrtifolia? — or what? — 2 x 3 ft. high — highest about 8 ft.

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I hardly know whether to ask you to send the Yucca seeds or not, as I have no proper place for them, — we are getting nomadic in this desolate country now, — however I may try them in a box. Would you like still later a bulb or two of Pancratium Rotatum from N. River? — does it grow with you? During the summer I made a collection of a few way-side plants, wh. possibly you might care to have for yr Herbarium, & among them handsome specs of "Pinckneya Pub." some 8 or 10. If so I'll try & send one of these days.

Just after the gale I bethought me of sending you fresh good specimens of P. Elliottii "up to date", & fixed them up for ~~mail~~ mail, — but pestels &c have prevented as yet, we being in a measure cut off from the outside world. I shall however send soon, & at that time or a week later capsules of No 2 & No 3, — of both of wh. I have collected but few, — $\frac{2}{3}$ ds, perhaps $\frac{9}{10}$ of these plants do not bruit. Trusting you will pardon much rig-marole & irrelevant stuff & chaff for the merest grain of observation or attention wh. this letter may contain

I am
Very Truly yours
J. H. M.

J. H. M. ("a man's name is his skin!")

P.S. You will observe as many as 5 leaves on one or two sheaths of the Pine sprouts; P. Serotina I have seen sprout from stump — don't know of others.

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P.S. Bumelia Tenax (Sideroxylon Chrysophyllum ?) from wh tree Evidently came the berries sent you long ago Bluffton Mo & about wh I desired information. 10 Sept '71

To —

Dr Geo: Engelmann

Rec'd Sept 19 — 215

My Dear Sir —

As I am anxious that you shd be accurately informed as to the new species — "P. Elliottii", I send you a package by this mail containing a good many specimens of the cones lately swept down in the gale of 18 Aug. Some were quite green & others almost brown; you will find them varying greatly both as to shape & size — as you will see by the sketch drawings wh was made in case the package fails to reach you. These sent present the more prominent variations — but the gradations to either extreme seem infinite — perhaps No's 4 & 5 & 7 are the most common forms.

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In hopes of preserving the outlines of these cones I have varnished them, wh. may keep them the longer from bursting. I trust they will safely reach you as I wish you to ex-amine them. You will find also a specn. each of P. australis, P. Jeffreyi & P. Benthamiana (maturing this fall), with wh. to compare the former — also the still younger cones of them all. Those unmarked all belong to Mr. Elliott. I hope I am not running you down! —

Yr. very sincerely
J. H. Muenchausen

P.S. — You will find the package enveloped in the Fort-mailer, Rangding, (Fathers) Y. of Yesso — simply to help the cones on their way through the mail, & also a few seeds of "varnish tree" — for the same purpose. ~~[illegible]~~ Yrs. of 14 aug. answered about 10 days since, & 2 packages sent since, — this the 3d. — (Ellis)

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Acc 2 Octo 10th
Acc 13

Bluffton Mo
2 Oct. '71

To —

Dr Geo. Engelmann

My Dear Sir,

I was sent a letter surprised this morning while on a visit to a patient in the country — to see what I've long been looking for — a Yucca flowering in full bloom on the side of a cotton field hedge! I enclose leaf & flowers as from the same. Trunk about 8 inches, & short, — flower-stalk 5 feet — racemes short, 4 to 6 flowers in each; — from the lower portion of the panicle — the pedicels (2 & 3) seem to spring immediately from the stalk as is frequently seen in Y. filamentosa "anthers" are inter as Elliott says "sagittate" but my in the bud, as is the case with all the Yucca I've examined. Petals — "shaving ciliate" (Ell) ? I do not think so. Seeing the thing in bloom I bethought me of examining the bud on Sunday May River Bluff of wh I wrote you last winter — one of them — (the one wh I figured, where pl. stalks had been pushed aside by the next pl's growth) had evidently borne flrs. also, as a portion of the green stalk was left & a few half withered anthers flowers were found.

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GEORGE ENGELMANN PAPERS

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among the leaves. Entirely broken off by some "bloody wagon", with no dread of me or myself before his eyes! October, is it? rather late for young cones is it not? & yet here are 2 healthy & vigorous plants in bloom now. A lady whose youth was spent near Hilton Hd. Beach tells me that she often saw them in bloom among the "sand hills" when Chinquapins were ripening — in the fall that is — now, and a gentleman who saw this fall & who formerly planted them told me the same. Both of these people are accurate in such things generally.

I wd have supposed it was too late before frost for them to mature their fruit — but perhaps this is unusual — we will see.

Cones of P. Elliottii glued together by their "cerements" & scattering seed — some having taken root from our young plants on wood side; — somewhat in haste.

Very truly & rspfly
Yrs
E. A. Mearns

Yr. last of 16 Sept. recd. thanks for same.

I conclude that you recd. my last note as to the package of cones sent. I have met with one more peculiar form — wh. will complete the set.

Yrs
C. H. Merriam

Y. Florida. 2. Oct 71.

Y. Florida. 2. Oct 71. Have any of the plants at Key West any living specimens? I can only imagine it.

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Yr last of Sept 16. & 30. I shall answer (I mean any queries therein) as soon as I have leisure. Thanks for Yr courtesy! Bluffton Mo

12. Oct. '71

To —
L. G. Engelmann
Rec Oct 18th my 19th
Ans Nov 2d

P.S. I find that I cannot make up the package to day — will send next week, either on 17th or 20th!

As the weather is getting cooler it may be best to send on at once the bulb of the rootstock of the yucca about mid, — wh I would do by this mail. I very much doubt whether they will survive the absence of moisture, & rough handling in the mail bags, — especially, a mile back ride of some 17 miles from here to the R.R, — nevertheless, I make the venture as I am anxious that you shd cultivate them, & see for yrself how distinct these "Varieties" are! Probably I shall send young plants also, & even in these you will see how their distinctive features are preserved, — but cond you examine them when full grown (as I have done repeatedly) it is not unlikely that in the end you might see them with even my eyes! No 1. has invariably a great many leaves — more abruptly pointed than the others, & the panicle commencing low down on the scape, — wh also is of a pale green colour, with yel-

Please when you write again!

– lowest cast like the "Glottidium Floridanum".
No 2 on the other hand is few leaved, – leaves very long, – much narrowed at the base, smooth, & flat, – armed with a sharp spine, & of a dark green colour! Flower stalk invariably deep purple. No 3 resembles the latter somewhat, but the leaves are more numerous, much shorter, & generally rough on the upper face. Panicle (fl^r stalk & racemes) with a sharp puberulent, – ferruginous, wrinkled, with occasional prickles or elevations.

I believe that I referred formerly to the fact – that two patches of Nos 2 & 3 of from 30 to 40 plants each – grew immediately alongside of each other in an old "Broom-grass-field" wh^h I visited last winter, at the same time examining the many dead flower stalks in each patch, – this fact proving that both patches contained old & mature plants. Later still in the winter or in the early spring, a fire swept thro' the field – consuming everything, both leaves & flower stalks, – now upon visiting this spot at this time I find that both patches of plants have entirely renewed their leaves, & presenting so marked

a contrast as to elude the most unpractised observer, — the leaves of No. 2 being very sparse in number & almost twice the length of No. 3! These two colonies are side by side, & a chief could draw a perfect line of demarcation between them — guided alone by the length & colour of the leaves of each!

But I've gone over all this before, & doubtless I weary you with my "vain repetitions"; — I only remark that if there be not "gneed filamentous Vrea", — then what are they? Q. "Pulvinula" — "Q. Flammeus" of Hamilt? — or what? I have only Elliott & Chapman, & know nothing of what I suppose might be called Historical Botany, — having no authorities to consult! I wonder if Dr. Chapman has seen such as these I have called yr. attention to! — most likely he has! About 10 days since I sent a note to you in a letter, at the same time enclosing fls. of the "Y. Florida" only now in flower. I shall watch the fruit for you & with some curiosity too, as I do not remember to have seen it, — possibly it may turn

Many thanks for the printed sheets which I have read with much interest.

into a dry capsule after all! But I fear it may not fruit! I enclose my Father's letter which possibly may possess some interest for you, as it is not unlikely that I shall get from him specimens of the Pine which may be of use to you or may interest you in some way. I don't know how he may like my sending it, but as I say, it may prepare you for anything which I shall get from that region of the middle country on the Santee River, — not far I imagine from Wallis' old botanizing ground. Possibly I may go up there myself this Christmas — God willing! My father of course no more professes to be a Botanist than myself, but he is a sincere lover of Nature, & tho' now in his seventy second year he still keeps a bright look out for anything rich, or new, or strange, in that wide domain, — and it is no very unusual thing even now to see him with some new plant — "studying it up" — in "the gospel — according to" Elliott, in whom he tho' he is a believer; as being first a Carolinian, & next a "low-countryman"!! But I will forget that you are a zealous worker, & "eminent ~~for~~ facts, — with doubtless very many correspondents, & therefore with no time for the biblical revelations of religious zealots.

J. H. M.

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Rec'd Oct 18 1871

P. S. I enclose seeds of Yucca Nos 2 & 3. These were all that I could obtain, — every capsule wh I examined having been bored; — also still more seeds of "Pinus Elliottii". I doubt if the cones from wh they came were perfectly mature, but I see that they are already germinating & it is best to gather them now, as now the pines are yet wasting their mast. You can get M. Decaisne to strew them on that portion of the sea-coast of France — wh — I've seen it somewhere stated had been reclaimed from the drifting sands by some patriotic Frenchman, who sowed the whole ground with "P. Maritimus", —!! Is that the story & is there such a Pine? — I lately stumbled on an old No of the "Oakland monthly" (Cal) & therein read a very pleasant account of the life & wanderings of the Botanist Douglas after whom the Abies Douglasii was named. I had forgotten nothing of him previously. —

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GEORGE ENGELMANN PAPERS

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Recd Nov 3d

Bluffton S.C.

25 Oct 71

Dr. G. Engelmann

My D.r Sir,

Your last of 13th was rec.d in due time, — it was very pleasant reading to me, & I am obliged to you the more as I can give you so little in return! — And now once again to the condition of your Quaker Question as Mrs Jonathan Carlyle wd say! On the 16th of October I was called to a sick negro some distance from here by water, & as my route was sea-ward — I thought it not unlikely that I wd be gratified by the sight of another & still later blooming of Spartina, & nor was I disappointed! the day was delicious, — the bridal of the earth & sky, as old George Herbert hath it, & the tide brimming higher so that we skimmed over the tops of the highest marsh! We passed Crane Isle, Beef Isle, Corn Isle, & Potatoe Isle, (so suggestive of plenty!) — next, the beautifully wooded shore of Mount Pelier, — the Octagon place its ghostly chimneys telling the tale of war & Hate & reminding one of the fate of Chicago & Columbia, & as I approached old Pelizzoni with its ragged rim of shore skirmished here & there with live oaks & Palmettos — I see something very like a crane in the distance — wh I soon proved to be a long singlet for Flor! I was soon mounted on Sambo's horse, & wading this marsh & sedge — landed me among grasses & clambering Spiræas (metxii)

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

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I found growing here some 6 or 8 of these plants (Pf.), but only one in bloom, though upon the others were still to be seen the dead flr stalks of last year. They were all of them of pretty much the same appearance as the one with blossom on 2d ult, only the leaves more rigid & plaited. The enclosed figure is correct enough & taken from the Petigru plant, — you will see this the same thing! The flaccidity &c of the 2d ult. plant is easily accounted for, as the hedge & fence immediately around & about it were burned in the spring, & consequently the plant destroyed at that time; so that that it is still tender & flaccid; as for the leaves they were plaited; the next in so marked a degree as usual — for the other reasons, & besides, the leaf sent was heavily pressed wh obliterated the plaiting! As it was not likely that I would pass the spot again I thought it best to anneex it at once, wh I did, & on coming home placed the whole specimen in a goblet of water & was therefore enabled to verify yr observations as to the ~~complete~~ opening of the flr in the evening! wh was not I think complete until about 9 or 9.00! I had no idea that it was anything like this! — Next morning all of them wh had bloomed the preceding night seemed to have partially dropped & to wither, — the anthers & filaments especially; this last has become partially recovered in the morning when in bud, (as you remarked in a previous letter) but they were also perfect at night — they had not in the slightest degree withered! Why cannot they not have discharged their pollen then — I mean in the evening — is it necessary that there should be such an elongation

Do not suppose that all of the drawings claim were so lastly, but only a few of the best, & for the case of the action of the stamens. If a few of the best had been recommended

of the stigmas, & is before ready for the fertilizing pollen. Probably from simple landing. I did see a little lump of the yellow pollen grains on the inner portion of one of the petals. I observed that these flos did not seem to hang immediately up & down but were tilted a little, or inclined, so that a line drawn from an anther would strike the stigma, as thus.

But even tho' the pollen shed might fall, or be projected in anyway, why should there not be insect agency at on the very night. The fl.s, be open for as I have remarked the anthers & filaments seem perfect & just in condition to perform their functions, as they are not mature until next morning. These "millers" seem whole at I have found in almost every fl. I examined (after closed) daytime. Entire "Horde of pests" at night, & would be quite sufficient for the purpose. But daytime I certainly ignored at every step. For really of course anything quite such millers. If they or lurked also happening to pass. After 2.00 yesterday afternoon I go round examine the fl.s silk, not all plants had been fertilized, not single sign of pathy fruit. Capsules to be seen, & it was commencing to wither so there nothing more to be gained there! The half cultivated garden yesterday had not bloomed, & was blown down in the storm of 18. Aug. The flowers stalks with its complete (apparently) pyramidal panicle of the stems? Y.S. (the base of ash I sent) certainly seemed different from both these ash I so just seen but I suspect the difference may be due to a more prosperous plant having been cultivated & entirely unshaded!

4.6

I enclose fls of Y. S. (2. October), & also of last (17, & 18, & 19. Oct) for you to compare, & I especially call yr attention to the double one! First I've seen on any yucca! Meeting yesterday a negro who came from Hilton Hd to consult me, I asked him about a certain plantn over there — where I remembered there was a kind of Hedge of Dracænas & I thinks too of Gloriosa, but wh. I had never visited since our disastrous battle there of Port Royal with old DuPont's fleet! I showed him the mitten fl. silk from "Petersburg", & asked him if any such were in bloom at "Half moon" — as I believe the old name of the place was. Yes! he said, for he had just been pulling at them the day before! — He promised to send one to day, but Cuffee's promises are like pie-crust, — nevertheless the fellow is quite intelligt & a carpenter to boot, & I do not att. all doubt he will send some time this winter. I hope to get over there (if there be fruit to be found — yours shall) & share it!!! I also visited the Isl in May River where I remarked to you so many intertangled stems of Dracænas are to be found, makers of them thinks, as little as bluff! W. the shutting of the worm, then resting on a little beat — wh is overflowed about twice a year I think in May &c. &c. I enclose specimen of trunk with a kind of bark much resembling Dog wood (C. Fl.a) & easily separable from the fibre &c. I thought this was said to be impossible in the Endogens, — nor does it seem to me difficult to see something very like "concentric rings" counting wh I make out my Endogent between 40 & 50 yrs!!! But that's not "sehr les Pieglis", is it? I ches like to get my trunk to you, — is this like yr Antigua (?) specimen? I sent you last a letter enclosing a note to me from my Father, & also last week a package of flower Fr. buds &c. T. Elliotts springing up abundantly on real fire. I have more to say, but must go & drop my gun-shot round cases — the result of feeling between whites & blacks, fomented by the emissaries of our "Smoky Cæsar", A. Horse Jockey, who sits in the chair of Washington & Jefferson!!! Yours ever

Rec'd Nov 15th
Ans same day

Dr. G. Engelmann

Bluffton MO
8 Nov '71

5

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

My dear Sir.

Perhaps it is as well to send on at once whatever I may have, & I therefore enclose seeds of Pinus Elliottii collected from a few many trees — young as well as old, also a few of P. glabra & serotina. I was anxious that you should have seeds of the former, as it is a tree but little known & in my opinion worthy of cultivation, I therefore write a long sketch a day or two since & obtained about a handful of cones — only awaiting a frost to burst them open! When these shall have discharged their seed I shall send you. I think it not unlikely that this tree is found about the Santee near Fort Moultrie as St. Johns — Berkeley — where Mr Rantoul re-discovered it — is not so very far off — 30 or 40 miles may be. At the I find it sometimes growing on a salt water bluff & at the heads of the little coves making into the river, — yet it loves rich & mellow soil on the borders of swamps & I am told it is often found in the swamps on little rich knolls. Some of the finest I have seen were in a swamp on the Edisto where the R. R. crosses that river, & also about Coosawhatchie, & Tulifinnee, on the same route, — but of course all of these places are not far from the sea. The young cones of this Spring are now recurving — as also P. serotina, — P. taeda not yet. You will remember that this condition appears very early in P. Elliottii. I have watched P. serotina now for 2 or 3 yrs & the variation in growth of the wood has generally prevented my cones accurately to any condition as to the opening of the cones. I am certain however of this — that I have never yet seen a cone open unartificially at 18 months like the other pines & trees that are well secured — the few belonging only half way & even to the top will expand their cones — but other now they remain for a very long time — for several years il=

The best of P. Elliottii were from 16 — 19 to 25 feet, Pitcher's Hinds.

The best music

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seems to me. A few I observed opening last July (say about the 27th month) — but very few, & on trees wh I do not think were burned, — and last month (the 30th month) I saw an any others opening freely. But even now the most it seems to me are closed, & I think may remain so for years. I do not feel perfectly certain however, as to the accuracy of my conclusions. Well! Mr Rafinesque sent me a good specimen of his P. Serotina & I may astonish you as being so poor an observer, but I must tell the truth that I did see little or no difference either in the case or leaf save that in one or two instances there were 4 leaves in a sheath! I believe his P. S. & my P. S. to be identical. The same with his P. Mitis. I intend still "to fight it out" on the Yucca "line" "if it takes all the summer" (~~to [illegible]~~) so I have cut 3 specs ~~[illegible]~~ of Nos 1, 2 & 3 & when sufficiently dried shall send Gmail. If I had seen but a colony each of these 3 varieties I might have said that they sprang from the subterranean stems of but one plant of each kind, but finding them in fields miles a-part 3 — 10 & even 20 miles & presenting the same characteristics I cannot but think that there is something in this difference of length, colour, shape & sparsenessof leaf as is always the case in No 2: No 2 is the most abundant & loves rich & mellow ground on the side of a dam or edge of a field: a few days since flagging a rich swamp of Magnolia & Tupelo growth &c I observed at some distance what I took to be the fronds of the Blue Palmetto (C. Hystrix) a few plants of wh are to be found thereon — as there were needed I went in to the edge of the swamp & to my surprise found a large colony of the long leaved No 2 growing on a little mound wh seemed to have been raised either by ex-tornado trees — a perhaps long since by Indians. I procured several roots & young plants & also one large plant now growing in my garden. All of these have but few leaves (no matter how old or stout) never over 50 — 55 I believe whereas No 1 (only 3 colonies known of this!) & No 2 have a vast No. Of last of 2 nos came to hand last Nt & it was a treat to me. I thank you very much! for the last time however please let me repeat that the thought of taking up a valuable time of yours for mere curiosity's sake is not pleasant to me for I have (as I said before) but little to give you! — so that I will have you write only when in all respects convenient. In my last enclosing "bark" (?) of Y. Draconis or of G. flex of 16 — 1900 again I answered you as to placing Y. g. & leaves. I find all plants but some plants more so than others — I however have seen 2 plants always in clusters (leaves of wh I long ago sent) wh of they presented differences in the flowers &c wh not surprised me.

I wish to set for you often if you

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P.S. The package was not directed as letter T. 3043 Lawrence

Rec^d Dec 22 Ans same day

Lang Syne

Fort Motte. S.C.

13 Dec '71

To —

Dr. G. Engelmann

Dr E. H. Mellichamp

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

my dear Sir I see I've changed my base from the region of salt water to the red clay country of the Congaree, & I regret that I have so little to say wh^t can interest you, — nevertheless I shall jot down a few notes as to what I see! As to pines I find but three here, P. Mitis abounding on these rich clay lands, — P. Australis in the poor sandy & gravelly hills, & here & there P. Tæda as you get to the rice swamps. No P. Glabra, — no P. Serotina, — these I left behind me between here & Charleston 100 miles away. As before stated P. Glabra is common here on the Chest^n & Lar^ts R.R — wh^t runs along the coast, (the most beautiful trees being found in a swamp on the Edisto) but I lost sight of it on this route (So. Ca R.R) after passing a little cypress swamp

some 30 miles from Chstn. In this spot there were a few trees on little knolls in among the Cypresses. It is really a swamp tree, tho' in the low county I have found it on bluffs almost fronting the ocean, — as for instance on "Calebogue Sound" Hilton Head. I asked my Father to take me to his P. glabra but they were only very old & fine specimens of Nitis! a glance was sufficient to satisfy me, — nor did I find any difficulty in convincing him. As for P. Serotina as I tell you I have seen not one here, yet it is not unlikely that it may be found in ponds & low "falls" if there be any such here. No P. Rigida (Ell), — no P. Inops, — only the above 3! There was a terrible freeze just before my arrival here wh. brought down many a branch of Pine, so that a good opportunity was afforded me of examining them. I find the same difficulty to hold as to the non "apparent" position of the young cones of Rhus-trahis wh. I observed in the low country, — always an elongation with leaves! — As to yuccas the lawn & gardens of this beautiful place so indicative of the wealth & comfort

Fort Motte on the Congaree Dec. 13th 1871

of the olden time) are covered with them, — or rather I shd say with many Gloriosas (brought I imagine long ago from the Sea-beach) & a few of Dracenis. The former are generally (truth to) 4 or 5 ft high, — flower stalk the same, but expanding rather more than those used plants about me; otherwise I see little or no difference, but the leaves exactly resemble as to colour &c those formerly sent you from our own garden on Mex River — except that they are not so large & robust. Some 8 or 10 blooms, (in any my Father thinks!) but not a trace of fruit, tho' I examined very carefully! Strange! and we never to see this so called pulpy fruit? no fruit on Dracenis either. I demanded of my Father where his N. filamentosa (Vera) grew, — not here he said — in their wet — red clay lands, but some miles off among "those Dutch fellows" — in the poorer hills, — descendants of the old anti Revolution colonists (Germans) who are fixed & rooted here like their own Hills & pines, — & still showing all the thrift & Home-virtues of their race! So yesterday — being a most delicious & balmy day — we started off on a grand Exploration in the country of the German folks! For some miles not a specimen to be found, but as soon as the clay began

more yellow & softer & gravelly — we left
P. Mitis behind, & entering a country
of P. Australis & "Black Gates" & "Lent
Gates" we soon found them abun-
-dantly under the shadow of these various
Gates. These plants so far as seen were
robust, but slender, or rather having a
very short stem, & growing in separate
compact clusters, — that is, the new & younger
plants sprang from shoots or runners or
subterranean buds only a few inches from
the main trunk. I looked in vain for
a bud among the green leaves, but I did
observe one at the base of these just
above the surface of the earth. Some 10 or
12 specimens examined in all, leaves 57.
47. 44, — that was about the average.
Root much noduled or tubercled, — possibly
these are the young buds. Unfortunately none
of these had borne fls this yr. So no
capsule to be found. Found one old fls
stalk, of last yr. partly charred by fire,
— quite stout, must have been 6 feet
I imagine. Certainly a very diff. plant
from No. 1. 2 & 3 — Especially my
glabrous, flat & long leaved No 2 with
the purple stalk. I send by mail a pack-
-age containing the leaves with broad & long of Y. f. (vera)
with underground stem of same, also dried fls
of Y. flaccida & leaf of same from this plant, & larger
a few creeping rhts (?) of the exquisitely beautiful
Iris Cristata. (or what I later to be this) of
the pine-lands round about. Very a rather
The Mimosa seems almost naturalized here E A Mellichampe
growing on the sides & dry gorges — from seed evidently from
the trees on the lawn — one I observed
in the gorge at least 18 in in diam!

N. Mitis in package o. — I shall also send Hannah

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